

DEFENSE THREAT REDUCTION AGENCY

BROAD AGENCY ANNOUNCEMENT

HDTRA1-08-CBDIF-CBT-BAA



**CHEMICAL AND BIOLOGICAL
DEFENSE INITIATIVE FUND
&
CHEMICAL/BIOLOGICAL TECHNOLOGIES
DIRECTORATE
PHYSICAL SCIENCE AND TECHNOLOGY DIVISION
NEW INITIATIVES**

FY2008 – FY2010

JANUARY 2008

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1. INTRODUCTION AND BACKGROUND

1.1. Introduction.

1.1.1 The Defense Threat Reduction Agency's (DTRA) mission is to safeguard America and its allies from Weapons of Mass Destruction (WMD) (chemical, biological, radiological, nuclear, and high yield explosives) by providing capabilities to reduce, eliminate, and counter the threat, and mitigate its effects.

1.1.2. The DTRA Chemical and Biological Defense Program (CBDP) was established by the Department of Defense (DoD) to provide state-of-the-art defense capabilities to allow military forces of the United States to operate and to successfully complete their missions in chemical and biological warfare environments. The scope of mission efforts and the priorities assigned to specific projects are influenced by changes in military and civilian Chemical and Biological Defense (CBD) science and technology, advanced developments, operational requirements, military threat assessments, and national defense strategies. To keep pace with defense capability requirements, the CBDP as part of its mission, routinely promulgates chemical and biological research. The comprehensive research program encompasses both intramural and extramural sources, and the role of each is vital to the fulfillment of the Program objectives.

1.2. Topics are presented in Attachment 8. This BAA is an extramural solicitation. During its multi-year term, proposals may be solicited against topics that address either basic research, applied research, or advanced technology development objectives encompassing a broad spectrum of technologies in the chemical and biological sciences. Refer to Section 3 for further details and Section 8 for topics.

2. PURPOSE

2.1. The purpose of this Broad Agency Announcement (BAA) is to solicit research proposals for Chemical and Biological Defense Program, Defense Threat Reduction Agency requirements for the Chemical and Biological Defense Initiative Fund (CBDIF) BAA and the Physical Science & Technology (S&T) Division New Initiatives BAA.

2.1.1. Chemical and Biological Defense Initiative Fund (CBDIF):

The CBDIF goal is to fund new and innovative chemical and biological science and technology projects across a wide range of military operations. Established in FY2003, it is Congressionally directed with the intent to provide funds via a competitive acquisition to non-Government entities. Proposals may only address those topics presented in Attachment 8 of this document.

2.1.2. CBDP Physical Sciences & Technologies (CBT):

The Physical Science & Technology Division, Chemical and Biological Technologies Directorate, in its continuing mission, seeks new and innovative ideas for experimental and theoretical development of technologies to fill DoD requirements for chemical and biological defense. The goal is to identify and select science and technology projects that can be transitioned to joint acquisition programs. Proposals may only address those topics presented in Attachment 8 of this document.

2.2. The DoD CBDP, Defense Threat Reduction Agency, and the Joint Science and Technology Office for Chemical and Biological Defense (JSTO-CBD) are seeking optimum approaches to meet technology objectives within both the Physical Science & Technology and the Medical Science & Technology areas for the CBDIF, and the Physical Science & Technology New Initiatives. General goals of each Capability Area are listed below. Specific topics may address one or more of the Capability Areas outlined below. Topics are presented in Attachment 8.

2.2.1. Basic Research: In general, the goal of Basic Research is to conduct systematic study directed toward the greater knowledge or understanding the fundamental aspects of phenomenon and has the potential for broad, rather than specific application.

2.2.2. Detection – Chemical and Biological: The goal of Detection Capability Area is to provide real-time capability to detect, identify, characterize, locate and warn against all known or validated CB warfare agents in addition to other chemical or biological threat materials (e.g., Toxic Industrial Chemicals).

2.2.3. Information Systems Technology (previously referred to as Modeling & Simulation/Battlespace Management): The goal of Information Systems Technology (IST) Capability Area is to provide information superiority with respect to the Chemical, Biological, Radiological, and Nuclear (CBRN) environment.

2.2.4. Protection – Individual and Collective: The Protection Capability Area seeks to provide unencumbered full-dimensional protection to the war fighter for both personal protective gear (individual protection) and protection of large scale fixed or mobile environments (collective protection).

2.2.5. Hazard Mitigation: The goal of the Hazard Mitigation (previously referred to as ‘Decontamination’) Capability Area is to develop technologies that can rapidly restore pre-contamination capabilities with a minimum of logistical impact.

2.2.6. Threat Agent Science: Seeks to maintain and develop scientific knowledge of current, non-traditional, and emerging threats in addition to studying areas such as low level toxicity, agent fate, and improved simulant materials.

2.2.7. Medical Pre-Treatments: The goal of the pre-treatments capability area is to conduct research in order to develop lead candidate vaccines and chemical pretreatments and protectants that can be administered before exposure to provide both specific and broad-spectrum protection against validated chemical or biological agents. Categories of threat agents addressed in this capability area include nerve agents, viruses, bacteria and toxins.

2.2.8. Medical Diagnostics: Medical diagnostics involves the diagnosis of infection by or exposure to bacterial, viral, or toxin agents (biological diagnostics) or of exposure to nerve, vesicant, respiratory and blood agents (chemical diagnostics) with the goal to rapidly identify the causative agent in a remote environment prior to onset of symptoms.

2.2.9. Medical Therapeutics: The goal of the therapeutics capability area is to develop lead candidate medical treatments and pharmaceuticals that, when administered after exposure to a chemical or biological agent, mitigate or curtail the effects of that exposure and sustain forces operating in a CBW hazard area. Medical Therapeutics are segregated into biological countermeasures and chemical countermeasures.

3. BAA APPROACH AND OVERVIEW

3.1. This BAA is a multi-year BAA, remaining effective for three years from the initial date of issuance, unless amended otherwise. Multiple calls for proposals may occur in conjunction with this BAA. The topics and timelines (Attachment 8) published in the initial issuance are firm. In the future, ongoing, new or emerging requirements may necessitate amendment of the BAA to include new or different topics. At any time that the topics are amended, new proposal submission milestones (timelines) will be specified and as applicable any limitations specific to the topics will be noted. These amendments are expected to occur, in general, annually, and may occur more frequently, in both cases on an as-needed basis. This BAA and amendments issued thereto will be posted to the Federal Business Opportunities (FedBizOpps) website, the Grants Opportunities Website and, for informational purposes, on the DTRA website. It is the responsibility of the offerors and interested parties to stay abreast of BAA amendments by regularly checking the FedBizOpps website and registering at www.fbo.gov to receive notifications and updates to this specific solicitation.

3.2. Over the span of its term, this BAA will solicit basic research, applied research, and advanced technology development proposals for the topics presented in Attachment 8 and in effect at the time. Depending on the nature of requirements and/or available funding, each of these research categories may or may not be included in the most current List of Topics. Proposals may each address Basic Research, or Applied Research and/or Advanced Technology Development as specified in each topic. Proposals will not be accepted or considered that combine Basic Research with Applied Research and/or Advanced Technology Development.

3.3. The Government encourages proposals that span a wide spectrum of possible technical and business solutions in response to the specific technology topics stated in Attachment 8 of this BAA. The Government reserves the right to award any combination of approaches which offer the best overall value to the Government, and to oversee any and all processes and approaches once ongoing.

3.4. The full range of flexible assistance and acquisition related statutory authority arrangements available to DTRA are possible results from this announcement including but not limited to contracts, grants, and Other Transaction Agreements. Each of the several applicable procurement instruments offer different advantages, liabilities and responsibilities for offerors and the Government. Offerors must specify in their submittal their recommended approach (e.g. to contract, grant, or Other Transaction Agreements); however, the government reserves the right to negotiate and award the types of procurement instruments determined most appropriate under the circumstances. If warranted, portions of resulting awards may be segregated into pre-priced options. Except for Other Transaction Agreements, the Government actions under this BAA shall adhere to the requirements of the FAR, DFARS and/or DODGARS depending on type of instrument awarded.

3.5. DTRA intends to create an environment where potential offerors are willing to share commercially generated research and development with the Government. The Government will negotiate terms and conditions to leverage the successful offerors' advances. The Government seeks to ultimately acquire the best commercial products and technology in addition to offering

the appropriate level of protection of corporate and institutional intellectual property rights, thus encouraging participation by a broad spectrum of leading-edge technology developers.

3.6. All coordination and communication between offerors and the government will be conducted using the e-mail address associated with this BAA specified in Section 5.

3.7. The schedule of major milestones for this BAA is presented in Attachment 8.

3.8. Funding for participation in this program is highly competitive and the cost of proposed technologies should be considered. Historically, the CBDIF and Physical Science and Technology New Initiatives Programs awards ranged from approximately \$175 Thousand to \$3 Million with periods of performance ranging from 12 to 36 months. Awards resulting from this BAA will be made based on the evaluation results of a two-phased proposal process described in Attachment 9. The Government reserves the right to fund all, some, one, or none of the proposals submitted; may elect to fund only part of a submitted proposal; and may incrementally fund any or all awards under this BAA. All awards are subject to the availability of funds. While award is anticipated to occur according to the events stated in Section 6.1, the Government may select for funding any full proposal or portions of a proposal at any time during the fiscal year.

4. ELIGIBILITY

4.1. Proposals submitted for this BAA will be considered from the following U.S. and Foreign Enterprises:

- Industrial/commercial concerns including small businesses
- Accredited Degree granting colleges and universities
- Not-for-profit organizations
- DoD sponsored Federally Funded Research and Development Centers (FFRDCs) specified in DoD FAR Supplement 235.017-1 (<http://farsite.hill.af.mil/VFDFARA.HTM>) and click on 'DFARS Part 35'
- DOE sponsored FFRDCs provided that authorization is obtained from the DOE sponsor (see requirements of BAA Section 14.2).

Proposals are encouraged from Historically Black Colleges and Universities (as determined by the Secretary of Education to meet requirements of Title III of the Higher Education Act of 1965, as amended (20 U.S.C. § 1061)) and from Minority Institutions defined as institutions "whose enrollment of a single minority or a combination of minorities...exceeds 50 percent of the total enrollment." [20 U.S.C. § 1067k(3) and 10 U.S.C. § 2323(a)(1)(C)].

4.2. The following entities may not participate as prime contractors nor furnish principal investigators in awards made under BAA but may act as subcontractors:

- Federal laboratories other than those DoD and DoE sponsored FFRDCs specified in section 4.1 above (see requirements of BAA Section 14.3 for other FFRDCs).
- U.S. Government agencies and organizations
- Academic institutions that are federal government organizations (e.g., Naval Postgraduate School)

5. POINTS OF CONTACT

e-mail address for all BAA correspondence and questions	BAA cbdif-cbt08-10baa@dtra.mil
BAA Announcement	http://www.fbo.gov http://grants.gov
DTRA Proposal Submission Website (requires registration prior to proposal submission)	http://www.dtrasubmission.net http://grants.gov (see Section 6.3.1)
DTRA Website	http://www.dtra.mil

Questions regarding the technical and administrative content of this BAA must be sent to the DTRA e-mail address listed above. All questions must include the BAA number in the subject line. DTRA will post questions and answers to the FedBizOpps website that are relevant to all potential offerors. It is the offeror's responsibility to periodically check the FedBizOpps website (www.fbo.gov) to view postings of questions and answers, in addition to any applicable amendments to the BAA. Please note, answers will not be provided, nor any judgment made, related to questions concerning the applicability of certain projects to the scope of this BAA.

6. PROPOSAL SUBMISSION

6.1. Major Milestones: Refer to Attachment 8.

6.2. Submission Overview: Offerors interested in providing a submission or submissions in response to this BAA must register by electronic means in accordance with instructions in Section 6.3. Failure to register as stated will prevent an offeror's submission of documents required for Phase I and will render them ineligible for participation in this BAA. For each phase of submission, Offerors will complete a Cover Sheet on the DTRA proposal submission website. Phase I is for submission of Quad Charts/White Papers. Participation in Phase II of this BAA is by invitation only. The invitation to submit a Phase II proposal (i.e. full proposal submission consisting of Volume I - technical proposal, Volume II - cost proposal and Volume III - supplemental information to include, but not limited to, a Statement of Work and an updated Quad Chart/White Paper) will be based on the evaluation results in Phase I.

6.3. Application and Submission Information.

6.3.1. Submission Process. Registration at the DTRA proposal submission website prior to submission of Phase I proposals is required for any offeror who has not previously registered at <http://www.dtrasubmission.net>. Proposals must be submitted electronically through the DTRA proposal submission website stated in Section 5. Detailed registration and submission instructions are available at the site. Offerors submitting an assistance instrument (e.g., grants) as their recommended approach ***must*** submit their proposal through the DTRA proposal submission website and are encouraged to also submit through the Grants.Gov APPLY website: http://www.grants.gov/applicants/apply_for_grants.jsp. Attachment 10 provides offerors with an overview of the Grants.Gov APPLY process.

Any proposal submitted by any means other than the DTRA proposal submission website at <http://www.dtrasubmission.net> will not be considered (e.g., hand-carried, postal service,

commercial carrier, and e-mail). Offerors are responsible for ensuring compliant and final submission of their proposals, and can verify the submission of the proposal package with the electronic receipt that appears on the screen following compliant submission of a proposal to the DTRA proposal submission website.

For purposes of this BAA, the primary proposal submission website for all types of instruments is the DTRA proposal submission website.

6.3.2. Registration. All offerors interested in submitting proposals must register on the DTRA proposal submission website prior to submission of a proposal(s). The Registration must be submitted by a central Business Point of Contact (BPOC) rather than individual Principal Investigator personnel. A BPOC is a person who is given the responsibility of coordinating all submissions from individual Principal Investigators at his or her work location and is the only individual who may access the DTRA proposal submission website. The intent is that all submissions from an organization be coordinated and submitted by a single, identified responsible party. Failure to register in accordance with instructions may render them ineligible for participation in this BAA. Prior registration at any other proposal submission site other than at <http://www.dtrasubmission.net> does not fulfill registration requirements for participation in this BAA.

6.3.3. **IMPORTANT:** Registration at the DTRA proposal submission website is NOT the same as registering at the Central Contracting Registration (CCR) website, FedBizOpps or Grants.gov websites. Failure to compliantly register at the DTRA proposal submission website will prevent an offeror's submission of documents required and thus render the offeror ineligible for participation in this BAA.

6.3.4. Using the DTRA proposal submission website, all Offerors must prepare Proposal Cover Sheets for each Phase I and invited Phase II proposal submitted. All data point requirements must be completed in every cover sheet. Once the cover sheet is saved, the system will assign a unique proposal number for each Phase I submission and a different unique proposal number for each invited Phase II submission. Cover sheets may be edited as often as necessary until the submission period closes.

6.4. Two-Phased Submission. This BAA will be conducted in two phases as follows:

6.4.1. Phase I – Interested offerors are required to complete a cover sheet using the DTRA proposal submission website, and must submit Quad Chart/White Papers in accordance with instructions provided in this section of the BAA and within the deadlines specified in Attachment 8. Proposals will be evaluated against criteria as described in Attachment 9 of this BAA. Based on this evaluation, selected offerors will be invited to submit full proposals for evaluation under Phase II.

6.4.1.1. Phase I – Quad Chart/White Paper Submission and Content. Interested offerors are required to submit a Quad Chart and a two-page narrative (White Paper) that expands on the information provided in the Quad Chart. Each submission (Quad Chart and White Paper narrative) must identify at the end of the project title the specific number of the topic addressed


as presented in Attachment 8 of this BAA. See Quad Chart and White Paper format and narrative guidelines below.

6.4.1.1.1. Quad Chart Format: All Quad Charts should include the information indicated on the sample template located in Attachment 1.

- a. Heading: Title, Research Area Addressed, Topic Number, Principal Investigator, Organization
- b. Upper Left: Objective, Description of Effort
- c. Lower Left: Benefits of Proposed Technology, Challenges, Maturity of Technology, Research Area Addressed. Maturity information should indicate, where possible, the current readiness level of proposed technology and anticipated level of the proposed technology at project completion. Refer to Attachment 2 for established Technology Readiness Level categories.
- d. Upper Right: Picture or graphic illustrating proposed technology development
- e. Lower Right: Milestones, Cost, Period of Performance, Contact Information

All quad charts must be prepared and submitted in landscape format.

6.4.1.1.2. White Paper Narrative Format. The White Paper narrative expands on the Quad Chart presentation, and must not exceed two pages, 8.5 x 11 inches, single-spaced, with one-inch margins in type not smaller than 12 point font. Any pages submitted that exceed the two-page limit will not be read or evaluated. The Project Title must be included at the top of the page and must cite the Topic Number (refer to Attachment 8) and the Organization (Offeror's Institution, Company, etc). The content of the White Paper narrative must be limited only to further explanation, as deemed necessary by the offeror, of the information being conveyed as requested in the Quad Chart. Do NOT include corporate or personnel qualifications, past experience, or any supplemental information not requested in the Quad Chart. Refer to Attachment 3.

6.4.1.2. Submission File Format. The Quad Chart and White Paper must be uploaded as two separate documents (two individual and separate files). The files must be submitted in a Portable Document File (PDF) format compatible with Adobe Acrobat ® version 7.0 or earlier. The Quad Chart must be positioned in a landscape view. The White Paper must be provided in portrait layout. Each file will not exceed 2 Megabytes of storage space. Movie and sound file attachments, or other additional files, will not be accepted. If multiple proposals are being submitted by the same institution, separate cover sheets must be generated for each proposal and the Quad Chart and White Paper uploaded with the associated cover sheet, since a unique document number will automatically be assigned to each submission by the electronic proposal tracking system. All documents submitted to the DTRA proposal submission website are considered works in progress and are not eligible for evaluation until the offeror submits the final proposal package for consideration. The final submission must be 'locked' on the DTRA proposal submission website; until a submission has been 'locked' (saved as final), the submission is not eligible for review. Look for this 'lock' icon  on the DTRA proposal submission website. Offerors are responsible for ensuring compliant and final locked submission of their proposals, and can verify the submission of the proposal package with the electronic receipt that appears on the screen following submission of a proposal to the DTRA

proposal submission website. Perform a virus check before uploading any proposal files. If a virus is detected, it may cause rejection of the file. Do not lock or encrypt any files you upload.

6.4.1.3. Classification: All Quad Chart/White Paper submissions must be UNCLASSIFIED. All information provided in the White Paper that is marked appropriately will be considered proprietary information, as indicated in Section 6.5.

6.4.1.4. Notification to Offerors: Notifications of invitation to participate in Phase II and notifications of non-selection will be sent via e-mail to offerors (specifically, the registered Business Point of Contact and the designated Principal Investigator as entered on the proposal cover page on the DTRA proposal submission website). The e-mail will be sent from the DTRA proposal submission website on or about the date specified in Section 6.1. Debriefings for Quad Charts/White Papers will not be provided. However, a brief synopsis of the Government's evaluation in the form of a summary statement will be electronically available to offerors via the DTRA proposal submission website. The e-mail notifications will advise of the statement availability.

6.4.1.5. Offerors must be aware that it is their responsibility to ensure that e-mail notifications reach the designated Business Point of Contact and Principal Investigator and that e-mail notifications are not blocked due to the use of 'spam blocker' software or other means that the recipient's Internet Service Provider may have implemented as a means to block the receipt of certain e-mail messages. Additionally, it is the responsibility of the Business Point of Contact to inform DTRA of any updates to e-mail addresses for both themselves as the registered Business Point of Contact and for the designated Principal Investigator.

6.4.1.6. Offerors invited to participate in Phase II must submit their full proposals in accordance with the instructions provided in Section 6.4.2 of this BAA. Full proposals will be evaluated against criteria as described in Attachment 9 of this BAA. Submission procedures are detailed in this BAA, and further detail may be given in the invitation. Any submission that does not conform to the requirements outlined in the BAA and in the invitation may not be reviewed or considered further. The due date for proposals is stated in Attachment 8 under Major Milestones.

6.4.2. Phase II - Full Proposal Submission and Content. The full proposal must be prepared in three separate volumes: Volume I – Technical Proposal; Volume II – Cost Proposal; and Volume III – Supplemental Information, to include a Statement of Work and an updated Quad Chart.


6.4.2.1. Volume I – Technical Proposal. The technical proposal (Volume I) must not exceed 25 pages. If the proposal exceeds 25 pages, only the first 25 pages will be reviewed. A page is defined as 8 ½ x 11 inches, single-spaced, with one-inch margins in type not smaller than 12 point font. The technical proposal must include the components included in the template as shown in Attachment 4 of this BAA. Phase II technical proposals must be UNCLASSIFIED. All information provided that is marked appropriately will be considered proprietary information, as indicated in Section 6.5.

6.4.2.2. Volume II – Cost Proposal. The Cost Proposal (Volume II) must contain cost estimates sufficiently detailed for meaningful evaluation. A cost summary must be prepared and submitted in conjunction with the submission of detailed costs. The cost proposal does not have a page limit. However, the cost summary is not to exceed 2-pages and must include the components, as appropriate, specified in the template shown in Attachment 5 of this BAA. The cost summary must precede a presentation of the detailed costs and provide a breakout of all costs by cost element based on 12-month increments. The detailed cost proposal must also provide a breakout of the costs by the elements defined for the summary by task corresponding to the task numbers in the proposed Statement of Work. In addition, the detailed cost proposal must provide separate cost proposals for each subcontractor or consultant, which includes the same cost data required of the prime offeror. The detailed costs must readily track back to the costs presented in the summary. The offeror must also provide a narrative to support the requirements in each cost element.

6.4.2.3. Volume III – Supplemental Information. This volume contains supplemental data. Additional information about the specific information to include is located in the sections referenced below. This volume must contain the following items of information. If any particular item is not relevant to the proposed effort, include a reference to the requested information and state that the particular information is not applicable in order to confirm a negative response.

	Item	Required	Reference
1.	Updated Quad Chart/White Paper	Yes	Template in Attachment 1 and Section 6.4.1.1
2.	Statement of Work	Yes	Template in Attachment 6
3.	DUNS, TIN and NAICS	Yes	---
4.	Representations and Certifications	Yes	Section 14
5.	CCR	Yes	Section 15
6.	Human Subjects	If Applicable	Section 16
7.	Animal Use	If Applicable	Section 17
8.	BioSurety and Select Agent Use	If Applicable	Section 18
9.	Organizational Conflict of Interest Advisory	Yes	Section 19
10.	Intellectual Property Assertions	Yes	Section 20
11.	Subcontracting Plan	If Applicable	Section 21
12.	Recommended Contract/Pricing Arrangement and Rationale	Yes	Section 22
13.	Authorized Offeror Personnel	Yes	Section 23

	Item	Required	Reference
14.	Statement of Current and Pending Support	Yes	Section 24
15.	DCMA/DCAA/DFAS Representatives	Yes	Section 25
16.	Confirmed Proposal Expiration Date	Yes	Section 26

6.4.2.4. Submission File Formats. Each volume of the proposal must be submitted as a separate Portable Document File (PDF) compatible with Adobe Acrobat ® version 7.0 or earlier. Each individual file will not exceed 5 Mbytes of storage space. Movie and sound file attachments, or other additional files, will not be accepted. If multiple proposals are being submitted by the same institution, separate cover sheets must be generated for each proposal and the full proposal files must be uploaded with the associated cover sheet, since a unique document number will automatically be assigned to each submission by the electronic proposal tracking system. All documents submitted to the DTRA proposal submission website are considered works in progress and are not eligible for evaluation until the offeror submits the final proposal package for consideration. The final submission must be 'locked' on the DTRA proposal submission website; until a submission has been 'locked' (saved as final); the submission is not eligible for review. Look for this 'lock' icon  on the DTRA proposal submission website. Offerors are responsible for ensuring compliant and final locked submission of their proposals, and can verify the submission of the proposal package with the electronic receipt that appears on the screen following submission of a proposal to the DTRA proposal submission website. Perform a virus check before uploading any proposal files. If a virus is detected, it may cause rejection of the file. Do not lock or encrypt any files you upload.

6.4.2.5. Notifications to Offerors. Selection and non-selection notifications will be sent via e-mail to offerors (specifically, the registered Business Point of Contact and the designated Principal Investigator as entered on the proposal cover page on the DTRA proposal submission website). The e-mail will be sent from the DTRA proposal submission website on or about the date specified in Section 6.1. A synopsis in the form of a debriefing summary statement will be electronically available to offerors via the DTRA proposal submission website. The e-mail notifications will advise of the statement availability. Additionally, notification of apparent successful offerors will be posted to www.FedBizOpps.gov on or about the date specified in Section 6.1.

6.5. Marking of White Paper and Proposal and Disclosure of Proprietary Information other than the Government.

6.5.1. The Quad Chart portion of the submission will not contain information deemed trade secret, confidential or proprietary by the offeror.

6.5.2. The white paper/proposal submitted in response to this BAA may contain technical and other data that the offeror does not want disclosed to the public or used by the Government for any purpose other than proposal evaluation. Public release of information in any white paper/proposal submitted will be subject to existing statutory and regulatory requirements. If proprietary information which constitutes a trade secret, proprietary commercial or financial information, confidential personal information, or data affecting the national security, is provided

by an offeror in a white paper/proposal, it will be treated in confidence, to the extent permitted by law, provided that the following legend appears and is completed on the front of the white paper/proposal: "For any purpose other than to evaluate the white paper/proposal, this data shall not be disclosed outside the Government and shall not be duplicated, used, or disclosed in whole or in part, provided that if an award is made to the offeror as a result of or in connection with the submission of this data, the Government shall have the right to duplicate, use or disclose the data to the extent provided in the agreement. This restriction does not limit the right of the Government to use information contained in the data if it is obtained from another source without restriction. The data subject to this restriction is contained in page(s) _____ of this white paper/proposal." Any other legend may be unacceptable to the Government and may constitute grounds for removing the proposal from further consideration without assuming any liability for inadvertent disclosure. The Government will limit dissemination of properly marked information to within official channels. In addition, the pages indicated as restricted must be marked with the following legend: "Use or disclosure of the white paper/proposal data on lines specifically identified by asterisk (*) are subject to the restriction on the front page of this white paper/proposal." The Government assumes no liability for disclosure or use of unmarked data and may use or disclose such data for any purpose.

6.5.3. In the event that properly marked data contained in a white paper/proposal submitted in response to this BAA is requested pursuant to the Freedom of Information Act, 5 USC 552, the offeror will be advised of such request and, prior to such release of information, will be requested to expeditiously submit to DTRA a detailed listing of all information in the white paper/proposal which the offeror believes to be exempt from disclosure under the Act. Such action and cooperation on the part of the offeror will ensure that any information released by DTRA pursuant to the Act is properly identified.

6.5.4. By submission of a white paper/proposal, the offeror understands that proprietary information may be disclosed outside the Government for the sole purpose of technical evaluation. The Contracts Office will obtain a written agreement from the evaluator that proprietary information in the white paper/proposal will only be used for evaluation purposes and will not be further disclosed or utilized.

6.6. Late Submissions and Withdrawal of Proposals.

6.6.1. Offerors are responsible for access to the DTRA proposal submission website and for submitting electronic proposals so as to be received at the Government site indicated in this BAA no later than the date specified in the Major Milestones, Attachment 8. When sending electronic files, the offeror will account for potential delays in file transfer from the originator's computer server to the Government website/computer server. Offerors are encouraged to submit their proposals early to avoid potential file transfer delays due to high demand or problems encountered in the course of the submission.

6.6.2. Acceptable evidence to establish the time of receipt at the Government site includes documentary and electronic evidence of receipt maintained by the installation. Offerors should also print, and maintain for their records, the electronic receipt that appears on the screen following submission of a proposal on the DTRA proposal submission website.

6.6.3. If an emergency or unanticipated event interrupts normal Government processes so that proposals cannot be received at the site designated for receipt of proposals by the date and time specified, then the date and time specified for receipt of proposals will be deemed to be extended to the same time of day specified in the BAA on the first work day on which normal Government processes resume.

6.6.4. Proposals may be withdrawn by written notice received at any time before award. Withdrawals are effective upon receipt of notice by the Contracting Officer via the e-mail address listed in Section 5.

6.7. The Government may reject Phase I or Phase II submissions that are deemed non-compliant, i.e., that significantly deviate from the instructions in the BAA.

7. TOPICS AND EVALUATION CRITERIA AND SELECTION PROCESS

7.1. Attachment 8 presents the list of topics with associated requirements for which proposals are sought. Each proposal submitted may address one topic only. Offerors should use their best judgment. It is incumbent on the offeror to conduct independent research to understand how the specific technology proposed can be properly applied to the requirements. Offerors may submit proposals to more than one topic.

7.2. The topics and timelines specified in Attachment 8 of the initial issuance of this multi-year BAA are firm. The topics are expected to change periodically. Refer to Section 3.1 and Attachment 8 for further details.

7.3. The criteria and manner by which proposals will be evaluated and the selection process to be employed are detailed in Attachment 9.

8. INFORMATION TO BE REQUESTED FROM SUCCESSFUL OFFERORS

Offerors whose proposals are accepted for funding will be contacted before award to provide additional information required for award. Such information may include revised costs or cost explanations and other information applicable to the proposed award. Offerors that are not responsive in a timely manner to Government requests for information (defined as meeting Government deadlines established and communicated with the requests) may be removed from award consideration.

9. MILITARY RECRUITING

This is to notify potential offerors that each grant or contract awarded under this announcement to an institution of higher education must include the following term and condition: "As a condition for receipt of funds available to the Department of Defense, DoD, under this award, the recipient agrees that it is not an institution of higher education (as defined in 32 Code of Federal Regulations (CFR) Part 216) that has a policy of denying, and that it is not an institution of higher education that effectively prevents, the Secretary of Defense from obtaining for military recruiting purposes: (A) entry to campuses or access to students on campuses; or (B) access to

directory information pertaining to students. If the recipient is determined, using procedures in 32 CFR Part 216 to be such an institution of higher education during the period of performance of this agreement, and therefore to be in breach of this clause, the Government will cease all payments of DoD funds under this agreement and all other DoD grants and cooperative agreements, and it may suspend or terminate such grants and agreements unilaterally for material failure to comply with the terms and conditions of award.” 32 CFR Part 216 may be accessed electronically at <http://www.gpoaccess.gov/cfr/index.html>. If your institution has been identified under the procedures established by the Secretary of Defense to implement Section 558 of Public Law 103-337, then: (1) no funds available to DoD may be provided to your institution through any grant, including any existing grant; (2) as a matter of policy, this restriction also applies to any cooperative agreement; and (3) your institution is not eligible to receive a grant or cooperative agreement in response to this BAA. This is to notify potential offerors that each contract awarded under this announcement to an institution of higher education must include the clause: Defense Federal Acquisition Regulation Supplement (DFARS) 252.209-7005, Reserve Officer Training Corps and Military Recruiting on Campus.

10. EXPORT CONTROL NOTIFICATION

Offerors are responsible for ensuring compliance with all export control laws and regulations that may be applicable to the export of and foreign access to their proposed technologies. Offerors may consult with the Department of State with any questions regarding the International Traffic in Arms Regulation (ITAR) (22CFR Parts 120 – 130) and/or the Department of Commerce regarding the Export Administration Regulations (15 CFR Parts 730-774).

11. LIMITATION ON OTHER TRANSACTIONS

Offerors are advised that an Other Transaction for Research Agreement (10 U.S. Code § 2371) will only be awarded if the use of a standard contract, grant or cooperative agreement is not feasible or appropriate. Offerors are advised that an Other Transaction for Prototype Agreement (P.L. Law 103-160 § 845) will only be awarded if there is:

- a. At least one nontraditional defense contractor participating to a significant extent in the prototype project, or
- b. No nontraditional defense contractor is participating to a significant extent in the prototype project, but at least one of the following circumstances exists:
 - i. At least one third of the total cost of the prototype project is to be paid out of funds provided by the parties to the transaction other than the federal government. The cost share should generally consist of labor, materials, equipment, and facilities costs (including allocable indirect costs).
 - ii. Exceptional circumstances justify the use of a transaction that provides for innovative business arrangements or structures that would not be feasible or appropriate under a procurement contract.
- c. Although use of one of these options is required to use an Other Transaction for Prototype agreement as the procurement vehicle, no single option is encouraged or desired over the others.

- d. NOTE: For purposes of determining whether or not a participant may be classified as a nontraditional defense contractor and whether or not such participation is determined to be participating to a significant extent in the prototype project, the following definitions are applicable:

“Nontraditional defense contractor” means a business unit that has not, for a period of at least one year prior to the date of the OT agreement, entered into or performed on:

- i. any contract that is subject to full coverage under the cost accounting standards prescribed pursuant to section 26 of the Office of Federal Procurement Policy Act (41 U.S.C. 422) and the regulations implementing such section; or
- ii. any other contract in excess of \$500,000 to carry out prototype projects or to perform applied research or advanced development projects for a Federal agency that is subject to the Federal Acquisition Regulation.

“Participating to a significant extent in the prototype project” means that the nontraditional defense contractor is supplying a new key technology or product, is accomplishing a significant amount of the effort wherein the role played is more than a nominal or token role in the research effort, or in some other way plays a significant part in causing a material reduction in the cost or schedule of the effort or an increase in performance of the prototype in question.

- e. NOTE: Offerors are cautioned that if they are classified as a traditional defense contractor, and propose the use of an OT for Prototype Agreement, the Government will require submittal of both a cost proposal under the guidelines of the FAR/DFARS, and a cost proposal under the proposed OT for Prototype Agreement, so that an evaluation may be made with respect to the cost tradeoffs applicable under both situations. The Government reserves the right to negotiate either a FAR based procurement contract, or Other Transaction for Prototype Agreement as it deems is warranted under the circumstances.

12. TECHNICAL AND ADMINISTRATIVE SUPPORT BY NON-GOVERNMENT PERSONNEL

It is the intent of DTRA to use non-government personnel (e.g. contractor support personnel) in the review and administration of all submittals for this BAA. Participation in this BAA requires Northrop-Grumman Information Technology and their subcontractors, Strategic Analysis, Inc., C-Systems International, and BRTRC Incorporated employees to have access to proposal information including information that may be considered proprietary. All individuals in this category having access to any proprietary data must certify that they will not disclose any information pertaining to this BAA including any submittal, the identity of any submitters, or any other information relative to this BAA. The contracts with these companies contain Organizational Conflict of Interest provisions and include contractual specifications for non-disclosure of proprietary contractor information. Additionally, Northrop Grumman Information Technology and its subcontractor employees, in their role as an Advisory and Assistance Services contractor to the Defense Threat Reduction Agency will provide technical input in an advisory role, as Subject Matter Experts, to the Government reviewers in addition to providing administrative support in the management of the proposals and their technical review. Submission of a Phase I or Phase II proposal to this BAA constitutes the offeror's consent to the disclosure of their information to Northrop-Grumman Information Technology and their

subcontractors, Strategic Analysis, Inc., C-Systems International, and BRTRC Incorporated under these conditions.

13. MANUFACTURING READINESS LEVELS (MRL)

13.1 The Government Accountability Office (GAO) has issued a Report to Congressional Committees titled “Best Practices: Stronger Practices Needed to Improve DoD Technology Transition Processes” (September 2006, GAO-06-883). The report can be accessed at: <http://www.zyn.com/sbir/reference/GAO-d06883.pdf> or obtain summary at: <http://www.gao.gov/highlights/d06883high.pdf>

13.2 In an attempt to address the concerns of the GAO, certain technology topics in this BAA (Section 8) state “MRL should be considered”. For those topics, refer to the following questions presented below. Although these questions do not need to be specifically addressed in the proposal submission, these questions will be addressed during the project’s period of performance to facilitate opportunities to better improve the potential for transitioning the technology development to an acquisition program.

13.3 Manufacturing Readiness Level Questions

13.3.1 Has the technology reached a minimum Technology Readiness Level (TRL) 4 or higher? Refer to Attachment 2 for TRL definitions.

13.3.2 If yes, give consideration to the following Manufacturing Readiness Level questions, where applicable:

13.3.2.1 General

- Is the technology reproducible?
- If so, have the critical features and attributes been characterized using quantitative methods?
- Are the performance and/or purity requirements measurable using standard laboratory methods?

13.3.2.2 Technology and Industrial Base

- Have manufacturing capabilities been anticipated/identified that are not readily available in the current industrial base?
- Are any potential manufacturing shortfalls documented?
- Are new materials, components, skills, and facilities anticipated?
- If so, are any potential sources/resources identified and documented?
- Have commercial potentials (e.g., spin-on, spin-off and dual-use) been considered?

13.3.2.3 Materials

- Have all concept materials been compared to EPA lists of hazardous materials?
- Are any potential hazards identified and documented for the manufacture or use of the technology?

14. REPRESENTATIONS AND CERTIFICATIONS

14.1 Representations and Certifications must be completed at the time of Phase II submission. The offeror must complete the annual representations and certifications electronically via the Online Representations and Certifications Application (ORCA) website at <http://orca.bpn.gov>. After reviewing the ORCA database information, the offeror verifies by submission of the offer that the representations and certifications currently posted electronically have been entered or updated within the last 12 months, inclusive of DFARS Provisions 252.209-7001, Disclosure of Ownership or Control by the Government of a Terrorist Country; DFARS 252.247-7022 Representation of Extent of Transportation by Sea and DFARS 252.225.7031 Secondary Area Boycott of Israel. Additionally, the offeror verifies the electronic representations and certifications are current, accurate, complete, and applicable to this BAA (including the business size standard applicable to the NAICS code referenced for this BAA , as of the date of this offer and are incorporated in this offer by reference (see FAR 4.1201).

14.2 In accordance with Section 4 of DoE Order 481.1C, FAR 17.504(e) and DoE FAR Supplement 970.1707-3, DoE FFRDC participants must provide a copy of the written certification from the DoE sponsor authorizing its performance of the proposed effort as a prime or subcontractor. The DoE sponsor must provide written certification that the proposed work –

- (1) is consistent with or complementary to missions of DOE and the facility to which the work is to be assigned,
- (2) will not adversely impact programs assigned to the facility.
- (3) will not place the facility in direct competition with the domestic private sector, and
- (4) will not create a detrimental future burden on DOE resources.

14.3 In accordance with FAR 17.504(e), 35.017(a)(2) and 35.017-3, FFRDC participants (other than the DoD FFRDCs referenced in Section 4.1 and DoE FFRDCs) must provide documentation from the FFRDC sponsor authorizing its performance of the proposed effort.

15. CENTRAL CONTRACTOR REGISTRATION (CCR)

Prospective contractors/grantees must be registered in the DoD CCR database. By submission of an offer resulting from this BAA, the offeror acknowledges the requirement that a prospective contractor/grantee must be registered in the CCR database prior to award, during performance, and through final payment of any contract/agreement resulting from this BAA.

IMPORTANT: We require that all offerors be registered in the CCR database at the time of Phase I proposal submission. CCR registration information also must be included in Volume III, Supplemental Information, of the Phase II full proposal.

You may register with CCR by calling the CCR Assistance Center at 1-888-227-2423 or you may register online at <http://www.ccr.gov>. You will NOT be able to complete your CCR registration until CCR has confirmed your Employer Identification Number (EIN) or Taxpayer Identification Number (TIN) with the Internal Revenue Service (IRS).

Please note that it will take 24-48 hours for IRS to validate your TIN. According to the IRS, if you do not currently have an EIN and need to apply for one over the phone or Internet, you will

be given a tentative EIN, but your EIN may not become active for up to two (2) weeks. If you have questions about your EIN, please call 1-800-829-4933.

If you have the necessary information ready, online registration will take about 30 minutes to complete, depending upon the size and complexity of your organization. If the organization completes the CCR registration process by 6:00 PM EST, the organizational representatives will be able to begin their registration process the very next business day.

16. PROTECTION OF HUMAN SUBJECTS

16.1. If the proposed research involves human subjects or materials, offerors are required to outline the human use, to include the source of the human subjects or materials involved in the research. This information, if applicable, must be included in Volume III, Supplemental Information, of the Phase II full proposal. Further information may be required if the proposal is successful.

16.2. All research under any award made under this BAA involving human subjects must be conducted in accordance with 32 CFR 219, 10 U.S.C. § 980, and DoD Directive 3216.2, and, as applicable, 21 CFR parts 11, 50, 56, GCP, the ICH as well as other applicable federal and state regulations. Contractors must be cognizant of and abide by the additional restrictions and limitations imposed on the DoD regarding research involving human subjects, specifically as regards vulnerable populations (32 CFR 219 modifications to subparts B-D of 45 CFR 46), recruitment of military research subjects (32 CFR 219), and surrogate consent (10 U.S.C. § 980).

16.3. DTRA Directive 3216.01 of January 28, 2005 establishes the DTRA Human Subjects Protection Program, sets forth the policies, defines the applicable terms, and delineates the procedures necessary to ensure DTRA compliance with federal and DoD regulations and legislation governing human subject research. The regulations mandate that all DoD activities, components, and agencies protect the rights and welfare of human subjects of study in DoD supported research, development, test and evaluation, and related activities hereafter referred to as "research." The requirement to comply with the regulations applies to new starts and to continuing research.

16.4. The DTRA Directive requires that research using human subjects may not begin or continue until the DTRA Human Research Oversight Board (HROB) has reviewed and approved the proposed protocol. Contractors and subcontractors are required to submit a valid federal assurance for their organization (institution, laboratory, facility) that has been issued by either DoD or the Department of Health and Human Services, and documentation of review of proposed protocols by the local Institutional Review Board (IRB) to include consent forms for any planned research using human subjects to the DTRA HROB for its review through the contracting officer's representative (if assigned) or the contracting officer. The HROB review is separate from, and in addition to, local IRB review.

16.5. A study is considered to involve human research subjects if: 1) there is interaction with the subject (even simply talking to the subject qualifies; no needles are required); and 2) if the study

involves collection and/or analysis of personal/private information about an individual, or if material used in the study contains links to such information.

16.6. Written approval to begin research or to subcontract for the use of human subjects under the proposed protocol will be provided in writing from the DTRA HROB, through the contracting officer. Both the contractor and the Government must maintain a copy of this approval. Any proposed modifications or amendments to the approved protocol or consent forms must be submitted to the local IRB and the DTRA HROB for review and approval. Examples of modifications/amendments to the protocol include but are not limited to:

- a change of the Principal Investigator;
- changes in duration or intensity of exposure to some stimulus or agent;
- changes in the information requested of volunteers, or changes to the use of specimens or data collected; or
- changes in perceived or measured risks or benefits to volunteers that require changes to the study.

16.7. Research pursuant to such modifications or amendments must not be initiated without IRB and HROB approval except when necessary to eliminate apparent and immediate hazards to the subject(s).

16.8. Research projects lasting more than one year require IRB review at least annually, or more frequently as required by the responsible IRB. HROB review and approval is required annually. The contractor or subcontractor must provide documentation of continued IRB review of protocols for HROB review and approval in accordance with the Contract Data Requirements List. Research must not continue without renewed HROB approval unless necessary to eliminate apparent and immediate hazards to the subject(s).

16.9. Non-compliance with any provision of this clause may result in withholding of payments under the contract pursuant to the contract's payments clause(s) and/or contract termination pursuant to the contract's termination clause(s). The Government shall not be responsible for any costs incurred for research involving human subjects prior to protocol approval by the HROB.

17. ANIMAL USE

17.1. Proposals that include animal studies or animal work must provide detailed information on the animal protocols to be used and verify the location where the studies will be conducted. Animal studies are subject to review and approval for safety and adherence to regulation. This information, if applicable, must be included in Volume III, Supplemental Information, of the Phase II full proposal. Further information may be required if the proposal is successful.

17.2. DoD Directive 3216.1, dated April 17, 1995, provides policy and requirements for the use of animals in DoD-funded research. The DoD definition of animal is any live nonhuman vertebrate. All proposals that involve the use of animals must address compliance with DoD Directive 3216.1. DTRA requires that research using animals not begin or continue until the DTRA has reviewed and approved the proposed animal use. For animals, the provisions include

rules regarding animal acquisition, transport, care, handling, and use in: (i) 9 CFR parts 1-4, Department of Agriculture rules that implement the Laboratory Animal Welfare Action of 1966 (U.S.C. 2131-2156); and (ii) the "Guide for the Care and Use of Laboratory Animals," National Institutes of Health Publication No. 86-23.

18. BIOLOGICAL DEFENSE RESEARCH PROGRAM (BDRP) REQUIREMENTS: BIOSURETY AND SELECT AGENT USE; CHEMICAL AGENT USE

18.1. Proposals must specify what Select Agent work will be conducted at the offeror's facility and what Select Agent work will be performed in other facilities. Proposals also must provide the source of the select agents, any appropriate registration information for the facilities, and specify the Laboratory Biosafety Level. All select agent work is subject to verification of information and certifications. This information, if applicable, must be included in Volume III, Supplemental Information, of the Phase II full proposal. Further information may be required if the proposal is successful.

18.2. For those institutions in which Principal Investigators are conducting research with Biosafety Levels 3 and 4 material, a Facility Safety Plan must be prepared and made available during the project award phase in accordance with 32 Code of Federal Regulations (CFR) 626.18. (DTRA requires that research using Select Agents not begin or continue until the DTRA has reviewed and approved the proposed agent use. See URL: www.access.gpo.gov/nara/cfr/waisidx_99/32cfr626_99.html for a copy of 32 CFR 626.18, Biological Defense Safety Program).

18.3 For projects that will employ the use of chemical agents, either neat agent or dilute agent, the offeror must provide approved Facility Standard Operating Procedures that conform to Federal, State, and local regulations and address the storage, use and disposition of these chemical materials.

19. ORGANIZATIONAL CONFLICT OF INTEREST ADVISORY

19.1 Certain post-employment restrictions on former federal officers and employees may exist, including special Government employees (including but not limited to Section 207 of Title 18, United States Code, the Procurement Integrity Act, 41 U.S.C. 423, and FAR 3.104). If a prospective offeror believes that a conflict of interest exists that relates to the above restrictions, the situation should be raised to the DTRA Contracting Officer before time and effort are expended in preparing a proposal. Send notification of potential conflict of interest via an e-mail message to the e-mailbox listed in Section 5 of this BAA.

19.2 All offerors and proposed sub-contractors also must affirmatively state whether or not they are providing scientific, engineering and technical assistance (SETA), advisory and assistance services (A&AS) or similar support, through an active contract or subcontract, to any DTRA technical office(s), the Joint Program Executive Office for Chemical and Biological Defense (JPEO), Assistant to the Secretary of Defense for Nuclear, Chemical, and Biological Defense Programs (ATSD-NCB), or the Office of the Special Assistant for Chemical and Biological Defense and Chemical Demilitarization Programs (OSA (CBD&CDP)). This information must be included in Volume III, Supplemental Information, of the Phase II full proposal. All

affirmations must state which office(s) the offeror supports, and identify the prime contract number. Affirmations must be furnished at the time of proposal submission. All facts relevant to the existence or potential existence of organizational conflicts of interest (FAR 9.5) must be disclosed. The disclosure must include a description of the action the offeror has taken or proposes to take to avoid, neutralize, or mitigate such conflict

20. INTELLECTUAL PROPERTY

20.1 Offerors must submit information describing the intellectual property that will be used in the performance of the contract, and any proposed restrictions on the Government's use of the intellectual property. This information must be included in Volume III, Supplemental Information, of the Phase II full proposal.

20.2 PATENTS. Offerors must provide a good faith representation, in writing, that you either own or possess appropriate licensing rights to the intellectual property that will be utilized under your proposal for this program. If you are unable to make such a representation concerning the intellectual property, provide a listing of the intellectual property to which you do not have the needed rights, and explain how and when you plan to obtain these rights.

20.2.1. For issued patents or published patent applications, provide the patent number or patent application publication number, a summary of the patent or invention title, and indicate whether the offeror is the patent or invention owner. If a patent or invention is in-licensed by the offeror, identify the licensor. If a patent application has been filed for an invention that has not been made publicly available and contains proprietary information, provide the patent application serial number, patent application filing date, a summary of the invention title, and indicate whether the offeror is the invention owner. If the invention is in-licensed by the offeror, identify the licensor.

20.2.2. Procurement contracts subject to the FAR/DFARS will contain one of the following patent clauses:

- FAR 52.227-11, Patent Rights – Ownership by the Contractor-Short Form (applicable to small businesses, nonprofit organizations and institutions of higher education)
- DFAR 252.227-7038, Patent Rights - Ownership by the Contractor (Large Business) (applicable to large, for profit businesses)

20.3 TECHNICAL DATA AND COMPUTER SOFTWARE. Offerors must submit information relating to any potential restrictions on use of technical data or computer software delivered under the contract as set forth below.

20.3.1. Offerors responding to this BAA requesting a procurement contract to be issued under the FAR/DFARS shall identify all technical data and computer software that will be delivered under the contract in which the Government will acquire less than “unlimited rights,” and must assert specific restrictions on those deliverables. Offerors shall assert restrictions in accordance with the table format set forth in DFARS 252.227-7017, Identification and Assertion of Use, Release or Disclosure Restrictions. Both noncommercial and commercial data/software restrictions should be identified in the table. In the event that offerors do not assert restrictions in

accordance with the DFARS 252.227-7017 instructions, the Government may automatically be entitled to “unlimited rights” in the technical data or computer software deliverables. Offerors also shall identify all documentation incorporating technical data or computer software it intends to deliver with restrictions that are identical or substantially similar to documentation that it has or will deliver to the Government under any other contract or subcontract, in accordance with DFARS 252.227-7028, Technical Data or Computer Software Previously Delivered to the Government.

20.3.2. Procurement contracts subject to the FAR/DFARS will contain the following data/software clauses as applicable:

- DFARS 252.227-7013, Rights in Technical Data-Noncommercial Items
- DFARS 252.227-7014, Rights in Noncommercial Computer Software and Noncommercial Computer Software Documentation
- DFARS 252.227-7015, Technical Data-Commercial Items (NOTE: This clause applies only if the item, component or process to which the technical data pertains meets the definition of “commercial item” in FAR 2.101)

20.3.3. Offerors responding to this BAA requesting an Other Transaction or Other Transaction for Prototype shall specifically identify any asserted restrictions on the Government’s use of intellectual property contemplated under those award instruments. Although not required, offerors are encouraged to use the format as shown in DFARS 252.227-7013. However, offerors must submit the information as required by DFARS 252.227-7028.

20.4. The Government may evaluate the impact of any asserted data/software restrictions or patents during the selection and/or negotiation process, and may request additional information from the offeror, as may be necessary, to evaluate the offeror’s assertions. If no restrictions are intended, then the offeror should state “NONE.”

20.5. The patent rights and technical data/software rights clauses referenced above can be accessed in full text at <http://farsite.hill.af.mil/>

21. SUBCONTRACTING

Any offeror other than small businesses submitting a proposal for and an award with a value more than the simplified acquisition threshold and that has subcontracting possibilities must submit a subcontracting plan in accordance with FAR 19.704(a) (1) and (2). This information, if applicable, must be included in Volume III, Supplemental Information, of the Phase II full proposal. The plan format is outlined in FAR 19.7. Pursuant to Section 8(d) of the Small Business Act (15 U.S.C. § 637(d)), it is the policy of the Government to enable small business and small disadvantaged business concerns to be considered fairly as subcontractors to contractors performing work or rendering services as prime contractors or subcontractors under Government contracts, and to assure that prime contractors and subcontractors carry out this policy.

A subcontracting plan identifies the offeror's approach to awarding subcontracts to small business, small disadvantaged business, women-owned small business, service-disabled veteran owned small business, and Historically Underutilized Business Zone (HUBZone) small business

concerns, and Historically Black Colleges and Universities/Minority Institutions (HBCU/MI) on this effort. A DCMA approved master plan may be submitted in lieu of an individual contract plan. The offeror must demonstrate how small business concerns will be used in the performance of the contract. The plan must also specify how the offeror will identify small business concerns throughout contract performance that can be added to the contract team. The emphasis of the plan must be to maximize small business participation to the maximum extent practicable. The current DoD subcontracting goals are as follows:

<u>Percentage of subcontracted dollars</u>	
Small Business	35%
Small Disadvantaged Business and HBCU/MI	5%
Women-Owned Small Business Concerns	5%
Service-Disabled Veteran Owned Small Business	3%

Notes: Provide rationale if these goals cannot be achieved.

Grants. If a grant is awarded, a subcontracting plan is not required.

22. RECOMMENDED PROCUREMENT INSTRUMENT AND PRICING ARRANGEMENT

22.1. Offerors must include in the Phase II proposal (Volume III – Supplemental Information) a summary of the recommended procurement instrument (e.g., contract, grant, cooperative agreement, other transaction agreement) and pricing arrangements (e.g., cost, cost plus fixed fee, etc.) and include rationale for their use. However, the Government reserves the right to negotiate and award the types of instruments determined most appropriate under the circumstances. It is anticipated that most instruments will be contracts with a Cost or Cost Plus Fixed Fee pricing arrangement. This information must be included in Volume III, Supplemental Information, of the Phase II full proposal.

22.2. For reference, a sample Cost Plus Fixed Fee contract and Grant will be made available on the proposal submission website for offerors to explore. We recommend that all offerors examine the sample documents and encourage them to make themselves familiar with the standard Federal Acquisition Regulations (FAR) clauses included. If selected for negotiation, offerors will be expected to be familiar with these clauses. Clauses may vary dependent upon type of business and contract, and the specifics of each individual project.

23. AUTHORIZED OFFEROR PERSONNEL

Offerors must include in the Phase II proposal the name, title, mailing address, telephone number, fax number, and e-mail address of the company and business point of contact regarding decisions made with respect to the offeror and who can obligate the proposal contractually. Also, identify those individuals authorized to negotiate with the Government. This information must be included in Volume III, Supplemental Information, of the Phase II full proposal.

24. STATEMENT OF CURRENT AND PENDING SUPPORT

Offerors must include in the Phase II proposal a statement of current and pending support of related work, and this information must be included for each investigator listed in the proposal.

This statement requires that each investigator specify all grants and contracts through which he or she is currently receiving or may potentially receive financial support. This information must be included in Volume III, Supplemental Information, of the Phase II full proposal.

25. ADMINISTRATIVE AND AUDIT OFFICES

25.1 Offerors must indicate in the Phase II proposal which Cognizant Administrative and Audit Offices will represent them. This information must be included in Volume III, Supplemental Information, of the Phase II full proposal.

25.1.1 DCMA: Offerors can identify their DCMA office by going to the following website [<https://pubapp.dcmamil/CASD/CasdSearch.do>] and entering their ZIP code.

25.1.2 ONR: Offerors can identify their ONR office by going to the following website <http://www.onr.navy.mil/02/024/offices.asp> and searching by region

25.1.3 DCAA: Offerors can identify their DCAA office by going to the following website [<http://apps.dtic.mil/wobin/WebObjects/DCAAAzipcode>] and entering their ZIP code.

26. CONFIRMED PROPOSAL EXPIRATION DATE

26.1. Offerors must provide written confirmation that holds the proposal, to include proposed costs, firm for 180 days after receipt. This information must be included in Volume III, Supplemental Information, of the Phase II full proposal.

27. ATTACHMENTS:

ATTACHMENT 1	QUAD CHART TEMPLATE
ATTACHMENT 2	TECHNOLOGY READINESS LEVEL DEFINITIONS
ATTACHMENT 3	PHASE I WHITE PAPER FORMAT AND PREPARATION INSTRUCTIONS
ATTACHMENT 4	PHASE II TECHNICAL PROPOSAL TEMPLATE AND PREPARATION INSTRUCTIONS
ATTACHMENT 5	PHASE II COST PROPOSAL TEMPLATE AND PREPARATION INSTRUCTIONS
ATTACHMENT 6	STATEMENT OF WORK TEMPLATE AND PREPARATION INSTRUCTIONS
ATTACHMENT 7	PROPOSAL SUBMISSION CHECK LIST
ATTACHMENT 8	MAJOR MILESTONES & PROPOSAL TOPICS

ATTACHMENTS (continued)


ATTACHMENT 9 EVALUATION CRITERIA AND SELECTION PROCESS

ATTACHMENT 10 NOTICE REGARDING USE OF GRANT.GOV APPLY

ATTACHMENT 1

QUAD CHART TEMPLATE

The following information must be included in Phase I as well as in Volume III, Supplemental Information, of the Phase II full proposal and must be positioned in a landscape view. Any Quad Chart submitted that exceeds the one-page limit will not be read or evaluated.

	Title of Project, Topic Number, Submitting Principal Investigator, Organization (Arial 24 pt, Bold)	
<p>Objective: Clear, concise (1-2 sentence) description of the goal of the effort (Arial 12 point)</p> <p>Description of Effort: Brief description of the technology proposed for investigation and methodologies to be used during the course of investigation (Arial 12 pt)</p>	<p align="center">Picture or graphic that illustrates the technology or concept</p>	
<p>Benefits of Proposed Technology: Brief statement that identifies the net advantages of the proposed technology over current practices and other competing technologies. (Arial 12 pt)</p> <p>Challenges: A bullet list of the technical or scientific challenges being addressed (Arial 12 pt)</p> <p>Maturity of Technology: Describe the maturity of the proposed technology with respect to the Technical Readiness Level (TRL) at project start and anticipated TRL at project end (Arial 12 pt)*</p> <p>Research Area: Indicate the Research Area: Reference Attachment 8 of this BAA (Arial 12 pt)</p>	<p>Major goals/milestones by fiscal year: •Bullet list (Arial 12 pt)</p> <p>Proposed Funding (\$K): TOTAL \$K (Arial 12 pt)</p> <p>Year 1 Funding: \$K Year 2 Funding: \$K etc.</p> <p>Period of Performance: (months) (Arial 12 pt)</p> <p>PI contact info: e.g. Dr. Marge N. Overra, (123) 123-1234, Marge.N.Overra@innovationsrus.com (Arial 12 pt)</p>	

* See Attachment 2 for Technology Readiness Level (TRL) definitions for both medical and non-medical systems (technology development).

ATTACHMENT 2

TECHNOLOGY READINESS LEVEL (TRL) DEFINITIONS

INTRODUCTION

Technology Readiness Levels (TRLs) are a systematic metric/measurement system that supports assessments of the maturity of a particular technology and the consistent comparison of maturity between different types of technology. TRLs were originally developed and used by the National Aeronautics and Space Administration (NASA) for technology planning. The use of TRLs has been widely adopted in government and industry. The Department of Defense (DoD) has adopted the use of TRLs as documented in the current DoD-5000 series publications. The table below provides notional TRL descriptions for both non-medical and medical systems.

Technology Readiness Level	Acquisition Guidebook (30 October 2002) https://acc.dau.mil/CommunityBrowser.aspx?id=18545	Medical Description (October 2004)
1. Basic principles observed and reported.	Lowest level of technology readiness. Scientific research begins to be translated into applied research and development. Examples might include paper studies of a technology's basic properties.	Earliest level of technology readiness. Active monitoring of scientific knowledge base. Scientific findings are reviewed and assessed as a foundation for characterizing new technologies
2. Technology concept and/or application formulated.	Invention begins. Once basic principles are observed, practical applications can be invented. Applications are speculative and there may be no proof or detailed analysis to support the assumptions. Examples are limited to analytic studies.	Focus efforts on practical applications based on basic principles observed. Generation of scientific "paper studies" that review and generate research ideas, hypothesis, and experimental designs for addressing the related scientific issues.
3. Analytical and experimental critical function and/or characteristic proof of concept.	Active research and development is initiated. This includes analytical studies and laboratory studies to physically validate analytical predictions of separate elements of the technology. Examples include components that are not yet integrated or representative.	Research, data collection, and analysis begin in order to: test hypothesis; explore alternative concepts; identify and evaluate critical technologies and components; and research and eventual development of candidate countermeasure(s). Conduct non-clinical studies to support models based on presumed battlefield conditions.

Technology Readiness Level	Acquisition Guidebook (30 October 2002) https://acc.dau.mil/CommunityBrowser.aspx?id=18545	Medical Description (October 2004)
4. Component and/or breadboard validation ¹ in laboratory environment.	Basic technological components are integrated to establish that they will work together. This is relatively “low fidelity” compared to the eventual system. Examples include integration of “ad hoc” hardware in the laboratory.	Laboratory research to refine hypothesis and identify relevant parametric data required for technological assessment in a rigorous experimental design. Exploratory study of critical technologies for effective integration into candidate(s). Assess safety and efficacy utilizing animal model(s). Propose assays, surrogate markers, and endpoints to be used during non-clinical and clinical studies to evaluate and characterize candidate(s).
5. Component and/or breadboard validation ¹ in relevant environment.	Fidelity of breadboard technology increases significantly. The basic technological components are integrated with reasonably realistic supporting elements so it can be tested in a simulated environment. Examples include “high fidelity” laboratory integration of components.	Conduct non-clinical research studies involving data collection and analysis in well-defined systems with highly characterized lots of candidate(s) produced and further development of selected candidates. Develop a robust and reproducible manufacturing process amenable to cGMP. Qualify assays for potency, purity, identity and quality. Qualify surrogate markers for efficacy in animal models.
6. System/subsystem model or prototype demonstration in a relevant environment.	Representative model or prototype system, which is well beyond that of TRL 5, is tested in a relevant environment. Represents a major step up in a technology’s demonstrated readiness. Examples include testing a prototype in a high-fidelity laboratory environment or in simulated operational environment.	Manufacture, release and stability test GMP pilot lots Conduct GLP safety studies Prepare and Submit IND Conduct Phase 1 clinical trial.

¹ Not “validation” as defined by FDA. FDA-type validations will be done at TRL 6-8 and are needed for licensure.

Technology Readiness Level	Acquisition Guidebook (30 October 2002) https://acc.dau.mil/CommunityBrowser.aspx?id=18545	Medical Description (October 2004)
7. System prototype demonstration in an operational environment.	Prototype near, or at, planned operational system. Represents a major step up from TRL 6, requiring demonstration of an actual system prototype in an operational environment such as an aircraft, vehicle, or space. Examples include testing the prototype in a test bed aircraft.	Conduct Phase 2 clinical trial. Establish final dose, dose range, schedule, and route of administration. Data collected, presented, and discussed with FDA at meeting (Type B). Clinical endpoints and supporting animal test plans agreed to by FDA. Complete process validation and initiate consistency lot production.
8. Actual system completed and qualified through test and demonstration.	Technology has been proven to work in its final form and under expected conditions. In almost all cases, this TRL represents the end of true system development. Examples include developmental test and evaluation of the system in its intended weapon system to determine if it meets design specifications.	Complete production & testing of consistency lots. Conduct Phase 3 clinical trials, if applicable. Submit BLA/NDA to FDA Obtain FDA approval.
9. Actual system proven through successful mission operations.	Actual application of the technology in its final form and under mission conditions, such as those encountered in operational test and evaluation. Examples include using the system under operational mission conditions.	Post licensure/approval use of product. Fulfill post-licensure commitments, if required.

ATTACHMENT 3

PHASE I WHITE PAPER FORMAT AND PREPARATION INSTRUCTIONS

(Note: See ATTACHMENT 1 for Quad Chart format and preparation instructions)

Phase I White Paper Template

The White Paper narrative must specify a single topic area and issues for consideration by identifying at the end of the project title the specific paragraph (topic number) referenced in Attachment 8 of this BAA. See White Paper format and content guidelines below.

FORMAT

Paper size: 8.5 x 11 inches

Spacing: Single-spaced

Margins: One-inch margins

Font: New Times Roman, not smaller than 12 point

Number of pages: No more than two (2) pages excluding an optional cover letter and the required cover sheet that will be prepared on-line at the DTRA proposal submission website. The Government reserves the right to evaluate only those pages within the stated limitations.

File Size: No greater than 2Megabytes

It is not necessary that White Papers carry official institutional signatures

CONTENT

The White Paper must be limited only to further explanation, as deemed necessary by the offeror, of the information being conveyed as requested in the Quad Chart. See BAA Section 6.4.1.1.2. The information should provide sufficient information on the research being proposed (e.g., the hypothesis, theories, concepts, approaches, data measurements, and analysis, etc.) to allow for an assessment by a technical expert. Do not include corporate or personnel qualifications, past experience, or any supplemental information not requested in the Quad Chart.

A one-page cover letter (optional) not counted in the 2-page limitation.

The cover page provided via the DTRA web-based proposal submission site shall be filled out in its entirety and not counted in the 2-page White Paper limitation.

Expand as deemed necessary on the following sections of the Quad Chart:

Objective; Description of the Effort; Benefits of the Proposed Technology; Technical Challenges; TRL of the technology at project start and planned TRL at project completion; Major Goals/Milestones by fiscal year.

ATTACHMENT 4

PHASE II TECHNICAL PROPOSAL FORMAT AND PREPARATION INSTRUCTIONS

Phase II Technical Proposal Template

The Technical Proposal has a page limit for the entire document. Any pages submitted that exceed the page limit will not be read or evaluated. See Section 6.4.2.1 for Technical Proposal page limits.

ABSTRACT *[1 page suggested]*

- I. **SCOPE.** This proposal is in support of the of the *(specify)* Chemical and Biological Defense Initiative Fund or the Physical Science and Technology New Initiatives Program; cite the same project title as used on the Quad Chart. *[8 pages suggested]*.
 - A. **Objective.** *[A clear and concise objective of the proposed project]*
 - B. **Background.** *[Provide the necessary technical and scientific background to support the scientific and/or technical merit of the proposed project.]*
 - C. **Programmatics.** This effort will support the [JSTO-CBD Capability Area] (see BAA Section 2.2) and is submitted in response to [Topic Number] (see BAA Attachment 8). The technology is proposed for eventual transition through the DTRA R&D Enterprise to the Joint Program Executive Office for Chemical and Biological Defense (JPEO-CBD).
[Describe your organization's management plan for the proposed project; list supporting and collaborating centers, and the roles/responsibilities of each identified academic and/or industrial sub-contractor supporting the project, if applicable].
 - D. **Relevance.** *[Describe the relevance of the proposed project in terms of DTRA mission, end-user needs and the state-of-the-art of the proposed technology].*
- II. **CREDENTIALS.** *[Describe your qualifications and the organization's credentials to perform the proposed work. Summarize the credentials of the primary performing center, and supporting academic and industrial partners to perform the work. Describe specific examples of similar work performed, and equipment and/or facilities available to perform the proposed work. List summary qualifications of PI and other key personnel. Focus on information directly relevant to the proposed work.]* *[4 pages suggested]*
 - A. **Summary of Credentials**
 - B. **Summary of Qualifications for PI and Key Personnel**
 - C. **Summary of Facilities to Perform the Proposed Work**
- III. **WORK TO BE PERFORMED.** *[Provide details of the work to be performed and present by performance year and by task, and as appropriate by subtask]* *[9 pages suggested]*
 - A. **General.** *[Provide an overview]*
 - B. **Summary:** *[List as many tasks as appropriate, and list tasks for each year of research proposed, adding years to the template below as necessary. If a task overlaps to a subsequent year, so indicate in the appropriate years.]*

Year 1

Task #1: Appropriate Task Title

Task #__: Appropriate Task Title

Task #__: Appropriate Task Title

Year 2

Task #__: Appropriate Task Title

Task #__: Appropriate Task Title

Task #__: Appropriate Task Title

B. Detailed Tasks. *[Describe the details of all tasks listed in above section.]*

i. **Task __: Appropriate Task Title and Yr:** *[Include what will be accomplished, how the task will be performed, the resources allocated against the task (personnel involved, hours, material, etc.), and the appropriate metrics to measure progress, and deliverable(s). Describe the applicable subtasks involved.]*

ii. **Task __: Appropriate Task Title and Yr** *[etc.]*

IV. PERFORMANCE SCHEDULE. *[Provide a table of tasks and sub-tasks and the duration of performance of each in a Gantt or other suitably formatted chart. [2 pages suggested]*

V. REFERENCES. *[1 page suggested]*

[List any relevant documents referenced in Section I.]

ATTACHMENT 5

PHASE II COST PROPOSAL FORMAT AND PREPARATION INSTRUCTIONS

The cost proposal must include, at a minimum, two separate sections (provided in one submission): a cost summary, not to exceed two-pages (see 'A', below), must precede the detailed cost portion (see 'B' below) of the cost proposal. See Section 6.4.2.2 for additional information pertaining to the cost proposal. Additionally, include detailed cost submissions for all subcontractors and consultants.

A. Cost Summary (not to exceed 2-pages).

A summary cost proposal must be prepared that includes the cost elements presented in the following table based on 12-month increments. Add as many years to the summary as will be included in the full proposed period of performance. Note: The periods of performance must match the information presented in the Statement of Work. Include the Topic Number and the Project Title on all pages of the summary cost proposal.

Cost Element	Year 1			Year 2			Year 3		
	Rate Hrly, Mthly	Quantity No. Hrs, No. Months	Total Amount	Rate Hrly, Mthly	Quantity No Hrs, No. Months	Total Amount	Rate Hrly, Mthly	Quantity No Hrs, No. Months	Total Amount
Direct Labor (List each direct labor category or individual separately)									
ABC Category	\$	XX	\$	\$	XX	\$	\$	XX	\$
Dr XYZ	\$	XX	\$	\$	XX	\$	\$	XX	\$
TOTAL DIRECT LABOR		XX	\$		XX	\$		XX	\$
Labor Burden	Labor Burden Rate	Lbr Burden Applied To: (direct labor \$\$. . .)	Total Amount	Labor Burden Rate	Lbr Burden Applied To: (direct labor \$\$. . .)	Total Amount	Labor Burden Rate	Lbr Burden Applied To: (direct labor \$\$. . .)	Total Amount
Fringe Benefits	%	\$	\$	%	\$	\$	%	\$	\$
Overhead	%	\$	\$	%	\$	\$	%	\$	\$
TOTAL LABOR BURDEN			\$			\$			\$
Material/Equipment	Matl O/H Rate	Matl O/H Applied To: (direct matl \$\$. . .)	Total Amount	Matl O/H Rate	Matl O/H Applied To: (direct matl \$\$. . .)	Total Amount	Matl O/H Rate	Matl O/H Applied To: (direct matl \$\$. . .)	Total Amount
TOTAL MATL/EQUIPMENT	%	\$	\$	%	\$	\$	%	\$	\$
TOTAL TRAVEL COSTS			\$			\$			\$
TOTAL ALL OTHER DIRECT COSTS			\$			\$			\$
TOTAL SUBCONTRACTOR COSTS			\$			\$			\$
TOTAL DIRECT COSTS			\$			\$			\$
G&A OR F&A	G&A or F&A Rate	G&A/F&A Rate Applied to: (total cost \$\$. . .)	Total Amount	G&A or F&A Rate	G&A/F&A Rate Applied to: (total cost \$\$. . .)	Total Amount	G&A or F&A Rate	G&A/F&A Rate Applied to: (total cost \$\$. . .)	Total Amount
TOTAL G&A OR F&A	%	\$	\$	%	\$	\$	%	\$	\$
TOTAL FACILITIES CAPITAL COST OF MONEY (COM) (Attach Completed DD Form 1861)			\$			\$			\$
TOTAL COSTS			\$			\$			\$
Fee or Profit	Fee Rate	Fee Rate Applied to: (total cost, excluding COM. . .)	Total Amount	Fee Rate	Fee Rate Applied to: (total cost, excluding COM. . .)	Total Amount	Fee Rate	Fee Rate Applied to: (total cost, excluding COM. . .)	Total Amount
FEE OR PROFIT	%	\$	\$	%	\$	\$	%	\$	\$
TOTAL COST PLUS FEE			\$			\$			\$

* Note: Itemize any planned items costing greater than \$5,000 (unit cost) immediately following the table; include all equipment/material (greater than \$5000 unit cost) in Total Direct Material/Equipment in table. See Equipment/Government Property - Section 'C' herein.

B. Detailed Cost (no page limit) Offeror format acceptable provided it includes a detailed cost breakdown of all costs by cost element and SOW tasks based on 12-month increments. The offeror must also provide a narrative to support the requirements in each cost element. In addition, the detailed cost proposal must provide separate cost proposals for each subcontractor or consultant, which includes the same level of details required of the prime offeror. **The detailed cost proposal will include the following three sections: (1) Tabular cost breakdown by cost element and SOW tasks based on 12-month increments; (2) Narrative to support the requirements in each cost element; and (3) Subcontractor cost breakdown, as appropriate.**

Budgeted cost elements should reflect the following:

- a. Individual labor categories or persons (principal investigator, graduate students, etc.), with associated labor hours and unburdened labor rates. Allowable charges for graduate students include salary, appropriate research costs, and tuition. Allowable charges for undergraduate students include salary and research training costs, but not tuition.
- b. Cost of equipment, based on most recent quotations and itemized in sufficient detail for evaluation (see Section 'C' below).
- c. Estimate of material and operating costs.
- d. Travel costs and the relevance to stated objectives; number of trips, destinations, duration, if known and number of travelers per trip. Travel cost estimations should be based on the Joint Travel Regulations (JTR).
- e. Publication and report costs.
- f. Consultant fees (indicating daily or hourly rate) and travel expenses and the nature and relevance of such costs.
- g. Computer services.
- h. Subcontract costs and type (the portion of work to be subcontracted and rationale). **Include detailed cost summary.**
- i. Communications costs not included in overhead.
- j. Other Direct Costs.
- k. Indirect costs.
- l. Fee/Profit, if any, which an industrial/commercial organization proposes.
- m. Facilities Capital Cost of Money: When an offeror elects to claim facilities capital cost of money as an allowable cost, the offeror should submit Form CASB-CMF (DD Form 1861) and show the calculation of the proposed amount. (See FAR 31.205-10.)

C. Equipment/Government Property

It is the DoD policy that all commercial and non-profit recipients provide the equipment needed to support proposed research. In those rare cases where specific additional equipment is approved for commercial and non-profit organizations, such approved cost elements shall be separately negotiated.

Offerors desiring that the Government purchase the equipment under the proposed effort shall state the organization's inability or unwillingness to furnish the equipment and provide a justification of need. However, an offeror's inability or unwillingness to supply its own resources, alone, is not sufficient reason for Government furnishing or acquisition of equipment. In providing justification for the need of Government furnished equipment, offerors should clearly demonstrate that it is (1) in the Government's best interest; (2) that the overall benefit to the acquisition significantly outweighs the increased cost of administration, including ultimate property disposal; (3) that providing the property does not substantially increase the Government's assumption of risk; and (4) that Government requirements cannot otherwise be met. Government purchase of equipment that is not included in a deliverable item will be evaluated for allowability on a case-by-case basis.

Proposals that include permanent equipment must itemize each item and its respective cost in Volume II – Cost Proposal. Permanent equipment is any article of nonexpendable tangible property having a useful life of more than two years and an acquisition cost of \$5000 or more per unit. The justification for each item of permanent equipment and its cost must be disclosed in the cost proposal to include as applicable:

- Vendor Quote: Show name of vendor and number of quotes received and justification of intended award is to other than the lowest bidder.
- Historical Cost: Identify vendor, date of purchase and whether or not cost represented the lowest bid. Include release(s) for not soliciting current quotes.
- Estimate: Include rationale for estimate and reasons for not soliciting current quotes.
- Special Test Equipment to be fabricated by the contractor for research purposes and its cost.
- Standard equipment to be acquired and modified to meet specific requirements including acquisition and modification costs, listed separately.
- Existing equipment to be modified to meet specific research requirements and modification costs. Do not include as special test equipment those items of equipment that, if purchased by the contractor with contractor funds, would be capitalized for Federal income tax purposes.
- Specification as to whether or not each item of equipment will be included as part of a deliverable under a resulting award.

Title of equipment or other tangible property purchased with government funds may be vested in institutions of higher education or with non profit organizations, whose primary purpose is the conduct of scientific research. Vestiture of title will be determined/negotiated prior to any purchases.

Commercial organizations are expected to possess the necessary plant and equipment to conduct the proposed research. Equipment purchase for commercial organizations will be supported only in exceptional circumstances.

ATTACHMENT 6

STATEMENT OF WORK FORMAT AND PREPARATION INSTRUCTIONS

Statement of Work Template

A Statement of Work must be included in Volume III, Supplemental Information, of the Phase II full proposal. The SOW does not have a page limit, but should be approximately 3-5 pages in length that is a separate and distinct document suitable for incorporation into the procurement instrument. Do not put proprietary data or restrictive markings in the SOW. Pages should be numbered and the initial page should have a date (document date) shown under the title.

The proposed SOW must accurately describe the work to be performed. The proposed SOW must also contain a summary description of the technical methodology as well as the task description, but not in so much detail as to make the SOW inflexible.

The SOW format follows:

(1) 1.0 - Objective: This section is intended to give a brief overview of the specialty area and should describe why the work is being pursued, and what you are trying to accomplish.

(2) 2.0 - Scope: This section includes a statement of what the SOW covers. This should include the technology area to be investigated, objectives/goals, and major milestones for the effort.

(3) 3.0 - Background: The offeror must identify appropriate documents that are applicable to the effort to be performed. This section includes any information, explanations, or constraints that are necessary in order to understand the requirements. It may include relationship to previous, current and future operations. It may also include techniques previously tried and found ineffective.

(4) 4.0 - Tasks/Technical Requirements:

(a) This section contains the detailed description of tasks which represent the work to be performed that are contractually binding. Thus, this portion of SOW should be developed in an orderly progression and presented in sufficient detail to establish the feasibility of accomplishing the overall program goals. The work efforts should be segregated by performance year and by task(s)/sub-task(s) within each performance year. Identify the performance year, task, sub-task using the decimal system (e.g. 4.1, 4.1.1, 4.1.1.1, 4.2, etc.). The sequence of performance must be presented the same as in Section III B of the technical proposal (refer to Attachment 4 of this BAA) and the SOW must contain every task to be accomplished to include a detailed performance schedule as required in Section IV of the technical proposal (refer to Attachment 4 of this BAA).

(b) The tasks must be definite, realistic, and clearly stated. Use “the contractor shall” whenever the work statement expresses a provision that is binding. Use “should” or “may” whenever it is necessary to express a declaration of purpose. Use “will” in

cases where no offeror requirement is involved; e.g., power will be supplied by the Government. Use active voice in describing work to be performed.

(c) Do not use acronyms or abbreviations without spelling-out acronyms and abbreviations at the first use; place the abbreviation in parenthesis immediately following a spelled-out phrase.

(d) If presentations/meetings are identified in your schedule, include the following paragraph in your SOW:

“Conduct presentations/meetings at times and places specified in the contract schedule.”

(5) 5.0 - CDRLs/Other Deliverables:

(a) The Contracts Data Requirements List (CDRL) serves as the contractual definition of the data item deliverables the contractor is required to generate under a contract. The CDRL spells out the information to be contained in the data and the frequency of submission of the data. Data requirements are not necessarily limited to technical information; they may be periodic reports such as monthly or quarterly progress reports or cost reports; project or test results reports; manuals; briefings; etc.

(b) Describe other deliverables, in addition to those listed below, that offeror proposes to provide to the Government such as hardware, software, etc.

1. Monthly or Quarterly Status Report (Quarterly Contract Performance Report for Basic Research; Monthly for all other R&D): After award, each quarterly report is due within 15 days after the end of the Fiscal Quarter (applies to Fiscal Quarters 1, 2 & 3 only), or 15 days after the end of each month. Format as provided to Contractor.
2. Monthly or Quarterly Cost Status Report: Submission will be in conjunction with the Monthly or Quarterly Status Reports, 15 days after the end of each month or Fiscal Quarter. Format as provided to Contractor.
3. Annual Report (Cumulative Annual Progress Report): First submission within 15 days after the end of the first Fiscal Year following award. Subsequent reports due within 15 days after the end of the Fiscal Year. Format as provided to Contractor.
4. Miscellaneous Data Submissions (Point Papers, Research, Correspondence, Briefings & Related Documents): Submission frequencies and dates will be dictated in the SOW tasks. Deliverable shall be compatible electronic media. Contractor format acceptable, unless specifically cited in SOW.
5. Patents – Reporting of Subject Inventions (Interim Reports): Provide report(s) every 12 months from the date of the contract as identified in the DFARS 252.227-7039 (Patents – Reporting of Subject Inventions (DD Form 882 attached)) and the FAR 52.227-11(f)

(Patent Rights – Ownership by the Contractor)/DFAR 252.227-7038(f) (Patent Rights – Ownership by the Contractor) (Large Business) reporting on utilization of subject inventions.

6. Regulatory Approval and Technical Data Packages – Submission Report (File Copies of Regulatory Approval Documents): The Contractor will provide the Government copies of all technical data generated by the Contractor prior to or during the performance of this contract that would be necessary to pursue FDA approval of an investigational new drug, a new drug application, biologics license application, or other approval, and notify Government of FDA decisions. (Ref: CFR Title 21 Part 312.)
7. Final Report: Submission within 15 days of completion of period of performance. Contractor format acceptable.

ATTACHMENT 7

PROPOSAL SUBMISSION CHECKLIST (for convenience/informational purposes)

Proposal Submission Website Registration	
Data to be Entered in Website for Cover Sheets	
POC Information	
Address and Country	
DUNS	
TIN	
NAICS	
CAGE Code	
Institution Type (Large or Small Business, Academic, etc.)	
Phase I	
Quad Chart	
White Paper	
Print Confirmation of Upload of Phase I Proposal	
Phase II	
Volume I: Technical Proposal (PDF Upload)	
Volume II: Cost Proposal (PDF Upload)	
Volume III: Supplemental Information (PDF Upload)	
Updated Quad Chart and White Paper	
Statement of Work	
DUNS, TIN, & NAICS	
Certifications and Representations	
CCR	
Human Subjects	
Animal Use	
BioSurety and Select Agent Use	
Organizational Conflict of Interest Advisory	
Intellectual Property Assertions	
Subcontracting Plan	
Recommend contract type/pricing arrangement with rationale	
Authorized Offeror Personnel	
Statement of Current and Pending Support	
DCMA/DCAA/DFAS Representatives	
Confirmed Proposal Expiration Date	
Print Confirmation of Upload of Phase II Proposal	

ATTACHMENT 8

MAJOR MILESTONES AND PROPOSAL TOPICS

1. MAJOR MILESTONES

SCHEDULE FOR THE FY2008 CBDIF AND THE FY2009 PHYSICAL SCIENCE & TECHNOLOGY NEW INITIATIVES	
DATE	EVENT
29 January 2008	BAA announced in FedBizOpps and Grants.gov websites
29 January 2008	Begin registration at the DTRA proposal submission website
31 January 2008	DTRA proposal submission website opens for receipt of Quad Chart/White Paper
12 February 2008	Deadline to submit questions
15 February 2008	Questions and Answers posted at FedBizOpps
21 February 2008 No Later Than 2:00pm ET	Phase I proposal receipt deadline (Quad Chart/White Paper)
20 March 2008	Phase II proposals invited; non-selection notifications will follow within 2 weeks.
21 April 2008 No Later Than 2:00pm ET	Phase II proposal receipt deadline
31 July 2008	Announcement of Apparent Successful Phase II Offerors; non-selection notifications will follow within 2 weeks.
On or about 15 October 2008	Estimated First Award Date ("on or about" is used since this is an estimate)
Awards expected to begin 90-120 days following initiation of negotiations ^{1, 2}	

Notes:

1. Actual award dates will vary based on complexity, statutory requirements, quality of proposal, pricing considerations, DCAA audits of proposed rates, type of instrument, number of awards, and other considerations. All dates are subject to change.

2: Awards will be made subject to the availability of funds. All offerors will be invited to begin negotiations upon notification of intent to award, and awards will be made as funds are available.

The topics and timelines published in the initial issuance are as stated above. In the future, as ongoing or new technology requirements may necessitate amendment of the BAA to include new topics. At the time that topics are amended, new proposal submission milestones will be specified. Refer to Section 3.2 of the BAA.

2. PROPOSAL TOPICS

The DoD is interested in soliciting proposals in the following areas of Chemical and Biological Defense. The intent of these topics is to identify technologies that fill identified capability needs in the DoD Chemical and Biological Defense Program. The level of detail provided for each specific technology area and sub-area or order in which they appear is not intended to convey any information regarding relative priority.

DETECTION

The Detection capability area is seeking innovative technology proposals in response to the following topics:

Topic: CBT-09-DET-01

Highly Specific, Low-Level Chemical Threat Detection

Proposals are being sought for early applied research to advance the detection of low-level chemical threats. Proposals should target mid-parts per trillion (ppt) detection (liquid or vapor) with very high specificity. This may involve MEMS or nanoscale technologies. A hyphenated-system approach may be required to achieve the low false positive and false negative rates that are desired. The system should be applicable to the broad range of chemical threats spanning from triatomics through formula weights of approximately 500 daltons. The system must be physically robust and tolerant of common environmental conditions and background materials. The final year effort should include a system design with an engineering analysis that shows the potential to produce a fieldable system that is less than 0.5 cubic foot in size, less than 10 pounds, function for at least 72 hours on internal batteries, and suitable for mass production. Submissions should include a rough order-of-magnitude estimate/model of the proposed system. Successful efforts will develop a research plan that first expands on this model, providing firm theoretical direction, before embarking on proof-of-concept or system development work.

Concept should target the following desirable features:

- Rapid: fewer than minutes (preferably less than one minute) response time
- Continuous sampling (sampling interval less than 15 seconds)
- No consumables other than power
- Simple to use in operational field settings
- Training requirements - does not require specialized designation.
- Sensitivity in the mid parts per trillion or better range
- Selectivity – ability to discriminate between alky groups such as isopropyl and isobutyl within a common class of materials
- Quantification of targets to within 15% of actual concentrations
- Capable of analyzing ‘real world’ samples – one compound out of a mixture of 50
- Type of targets – any compound that is triatomic and larger to include formula weights in the 500 dalton range

- System size of 0.5 cubic foot, weight less than 10 pounds, and function for at 72 hours using internal batteries
- System cost in the \$1000 range

Topic: CBT-09-DET-02

DNA Sample Prep for High-Speed, High-Throughput Sequencing Applications

Concepts are being sought for early applied research to support ongoing efforts in high speed nucleic acid sequencing. Methods/technologies are sought that provide sample preparation from spores, viruses, bacteria or whole vegetative cells resulting in sequencer or PCR-ready 50k base segments. Overlaps of approx 10k base are required for post-sequencing data analysis. This method must be applicable across all biological organisms. The use of species or target agent-specific reagents will not be considered. An engineering analysis of the resulting method must demonstrate that this is a fieldable concept that can be automated and incorporated into future field bioagent identification systems with minimal logistic burden (size, weight, power, reagents).

Concept should target the following desirable figures:

- Work with any biological material containing DNA or RNA
- Maximum fragment size to be less than 50,000 base pairs
- Overlapping sequences of 10,000 base pairs on the ends of the final product fragment
- Simple to use in operational field settings.
- Minimal number of steps in the sample prep process (number of steps in the process will be assessed).
- Minimal number of consumables and quantities of consumables (number and quantity will be assessed)
- Minimal need for support equipment (i.e., minimize or eliminate the need for centrifuges, pipettors, etc.)

Topic: CBT-09-DET-03

In-silico, made-to-order, Infra-Red (IR) challenge data modeling and generation

Current standoff detection algorithms have been developed targeting very specific data collection platforms. This situation makes it difficult to benchmark algorithms against platform non-specific challenge data sets. Proposals are sought to address this challenge by developing the models and theoretical frameworks necessary to produce in-silico, made-to-order, challenge data sets applicable to benchmarking developmental chemical detection systems and algorithms.

The spectral resolution of the model should be adjustable to meet the limits imposed by data collection platforms or reference spectra used as the basis to generate challenge sets. Proposals may chose to adopt an evolutionary approach that begins with modeling and validation using relatively simple laboratory based measurements before extending the work to include standoff IR measurements. Phase I efforts should target lab based, open path IR spectroscopy systems looking at real world samples (i.e. 20+ component, part per trillion through part per thousand chemicals in ambient air). Phase II should extend this model to include atmospheric propagation for distances up to 500 meters. Phase III should include atmospheric effects for distances up to 15 km including both hot/cold and land/sky backgrounds.

The completed, validated model should be able to produce synthetic datasets that could be used for developmental testing of chemical detection algorithms and completed detection systems prior to expensive field tests.

Topic: CBT-09-DET-04

Rapid, flow-through, detection of non-fluorescent threats

A feasibility study is sought to explore detection methodologies for non-fluorescent threats. The desired system could be used in parallel or in conjunction with UV fluorescence based triggers that are currently deployed or in late development. Objectives include a flow-through, continuous monitoring system with a response time less than 5 seconds for single particle monitoring. If a bulk measurement approach is proposed, explanation should include estimates of sample quantity required and the total analysis time. Submissions should include a rough order-of-magnitude estimate/model of the proposed system illustrating probable detection of 5 particles or approximately 0.01 ng per liter of air, with flow rates between 0.1 to 1.0 liter/min. Also include proof-of-concept data if available. Threats can be assumed to be in the 1-10 micron range with an average particle size of 2.5 microns. Continuous monitoring operations can be assumed and concepts that do not require consumables are highly desirable. Successful efforts will develop a research plan that provides firm theoretical direction before embarking on proof-of-concept or breadboard development.

Topic: CBDIF-08-DET-05

Modular and Adaptable Sample Preparation

Proposals are sought for a feasibility study addressing sample preparation methods for bioagent detection/identification. The current state-of-the-art in biological identification technology, either in the field or in the laboratory, is based on wet chemistry, primarily immuno and genetic assays (PCR). There are a small number of technologies based on protein or lipid components found within the pathogens. All existing techniques have issues that have been labeled as “sample preparation” or “sample prep.” The sample preparation process typically is composed of three major steps; 1) separating the sample into accessible individual components separate from the matrix, 2) disruption of the integrity of the organism (i.e. spore coat, cell wall, etc) to access the internal components (i.e. nucleic acid sequences, proteins, and lipids) without damaging those components found within the organism, and 3) separation of the internal components after disruption for use in the specific detection/identification mechanism. The current process for conducting sample prep requires a man-in-the-loop resulting in a resource intensive process which is generally well understood for each specific application-detection/identification methodology.

This topic solicits a feasibility study to consider automating the sample prep process. This effort should include automated/automatic sample preparation for pathogens and biological chemicals in diverse matrices (e.g., aerosol collections, Dry Filter Units (DFUs), blood, sputum, etc), while providing compatibility with various downstream analytical methods (DNA, RNA, protein of interest). The successful adaptive and modular approach should be applicable regardless of threat class or identification technology. Submissions should include a rough order-of-magnitude estimate/model of the proposed system. The feasibility study will include a research

plan that initially expands the model, providing firm theoretical direction before embarking on proof-of-concept or system development work.

Concept should target the following desirable figures:

- Rapid: <15 minutes
- Inexpensive: < \$10 per analysis
- Simple to use in operational field settings.
- Training requirements - does not require specialized designation.
- At least as effective as current sample preparation protocols for multiple targets, e.g., bacterial spores, vegetative cells, viruses, toxins, and biological chemicals.
- Must be capable of allowing identification (based on current identification technology) of DNA, RNA, lipids, and proteins from multiple matrices.
- Reduced logistic requirement over existing process (i.e., centrifuges, pipetters, etc.)
- Briefcase-sized deployable unit for mission duration of one week, including consumables.
- Accomplish the above with 'real world' samples.

INFORMATION SYSTEMS TECHNOLOGY

The Information Systems Technology capability area is seeking innovative technology proposals in response to the following topics:

Topic: CBT-09-IST-01

CBRN Data-Sharing Among Medical and CBRN Information Systems

This topic seeks proposals for development of products that will ensure the Medical Community can “plug-in” to the Joint Warning and Reporting Network (JWARN) – Joint Effects Model (JEM) capability for rapid warning of hazard prediction, ensuring the sharing of CBRN data across medical and CBRN information systems. Architectural and procedural issues, including automation and policy for data (Privacy Act/HIPPA, etc.) are to be addressed, which would enable the Medical Community to take information from the JEM/JOEF/JWARN systems (JOEF: Joint Operational Effects Federation), use it, and return it, facilitating medically-enhanced rapid dissemination of hazard predictions. Development of a Net-centric compliant architecture which pulls in medical data to generate CBRN courses of action, support planning, and medical alerts within the JEM/JOEF/JWARN construct will then provide command staff with a comprehensive decision support capability. It is essential that proposed work demonstrate ability to be effective within an integrated intra- and inter-agency decision framework. Deliverables of this effort would include a study, with road map for implementation of recommendations, issues and answers, and related information.

TRL4 is expected by 4QFY09.

Topic: CBT-09-IST-02**Information Assimilation and Fusion**

This topic seeks proposals to examine creative information assimilation and fusion techniques for use in the Joint Warning and Reporting Network (JWARN). Submissions should propose data assimilation and information fusion techniques that address ONE of the following topics:

- 1) Employing novel and innovative manipulation of data from currently fielded and emerging chemical and biological point detection systems (e.g., ACADA, JCAD, JBPDS), deliver a capability to reduce/eliminate false alarms, both false positives and false negatives. Techniques should focus on utilizing sensor networks to intelligently infer and extract information not available at the single sensor level, thereby reducing false alarm rates.
- 2) Provide a novel and innovative approach for employing disparate data from all information sources (e.g., anti-artillery radar information, Theater High Altitude Area Defense (THAAD), intelligence, CBRN sensors, observations, etc.) with the goal of enhancing the CBRN Common Operational Picture.
- 3) Develop a near real-time, tactical-level CBRN source term estimation tool that combines Allied Tactical Publication 45 correlation algorithm with refinement based on environmental and other types of data to better define the hazard triangle.

TRL3 is expected by 4Q FY09.

Topic: CBT-09-IST-03**Source Term for High-Altitude Releases and Atmospheric Dispersal of Bulk Chemicals**

This topic seeks proposals to study the fate, transport, and dispersion of liquid droplets that are released at high altitudes by a missile intercept. For use in the Joint Effects Model (JEM), the systematic incorporation of all of the relevant methodologies that describe the source release, dispersal of material released in the upper stratosphere and mesosphere, and its ultimate fate is required. Such a process should include the atmospheric modeling and inertial release considerations along with detailed droplet information for the source. It is critical that the developed technology be capable of transitioning the source term to the Second Order Closure Integrated Puff (SCIPUFF) model to perform the atmospheric transport and deposition of the intercepted material within JEM.

TRL3 is expected by 4Q FY09.

Topic: CBT-09-IST-04**Consequence Management Capabilities for Chemical and Biological Defense Program**

This Topic seeks proposals, which may result in studies, which will define and assess the spectrum of Consequence Management (CM) activities which could be undertaken in response to WMD events impacting the Warfighter, military operations, and civilian populations. It is critical that proposals consider existing, or engage in new, research studies, as well as characterizing current CM tools. An assessment of such current CM capabilities – and how they are used - within and across DoD, its Components, Agencies and relevant supported Agencies will be prepared, providing a clear and comprehensive understanding of the CM subject area. Work in this topic must lead to a comprehensive understanding of capabilities and gaps, methods and activities for addressing such gaps, while leading to a full understanding of how to best use the resulting suite of capabilities within an integrated intra- and inter-agency decision framework, thus facilitating CM. Areas of investigation should include, but not be

limited to, planning tools needed for recovery and restoration, risk assessment and resource allocation, and facilitation of common operational procedures across agencies.

TRL4 is expected by 4QFY09.

Topic: CBT-09-IST-05

Biological Surveillance

This topic seeks novel proposals that would result in models, information systems, and related elements, which in aggregate provide medical situational awareness and decision support to the commander in the theater of operations, in support of ongoing threat assessments and medical decision-making and planning. Development of this medical surveillance system should be integrated and interoperable with all other relevant medical and C4ISR systems, providing the command staff with unprecedented situational awareness and predictability with high sensitivity and specificity. Proposals should include descriptions of tools/capabilities that address ONE of the following areas of interest related to biological surveillance:

- A medical surveillance capability that rapidly identifies, reports, and documents bio-threat agents through medical surveillance and laboratory-based surveillance in theater for health outcomes of operational importance. This capability includes conducting epidemiological analysis of medical events and patterns.
- A zoonotic capability that employs zoonotic surveillance to assess exposure to bio-threat agents and the subsequent effects of these agents on the human population and the environment, allowing the execution of veterinary service support and the environmental surveillance missions in a CBRN hazard environment. This capability includes developing methodologies for bio-detection in animal populations, geo-spatial mapping, disease spread prediction capabilities and secondary human effects. Surveillance of indigenous animal populations for diseases of operational importance and information support to ongoing threat assessments is also included.
- A medical modeling, surveillance and prediction capability for bio-threat agents on large naval vessels that rapidly identifies, reports, provides casualty estimates and means to minimize casualty to support the environmental surveillance mission in a CBRN hazard environment. Persons living or working in closed settings, such as large naval vessels, are at elevated risk of infectious diseases. Respiratory and gastrointestinal outbreaks have been found to occur on both civilian cruise ships and military vessels. Outbreaks in closed settings are often difficult to prevent and control because the agents may have multiple modes of transmission, low infectious doses, and a large reservoir of susceptible persons (due to the short-lived immunity and multiple strain types). For instance, outbreaks may involve transmission by consumption of contaminated food or water, direct person-to-person, airborne droplets of vomitus and contaminated environmental surfaces. Susceptible-incubating-infectious-removed (SEIR) like models assume a homogenous population that mixes homogeneously - all members of the population have some ability to interact with any other member of the population. These assumptions hold true and SEIR models offer informative result for large, city sized populations. However, for smaller populations or populations where the social dynamics result in non-homogeneous mixing, these assumptions may not apply. This topic seeks a capability addressing confined areas with unique social structures (e.g., the social dichotomy between officers and enlisted sailors or between departments on a vessel). Novel modeling approaches are sought, which will provide a tool/capability for planners and commanders to evaluate the impact of bio-threat agents, scenarios, and responses on operational capabilities and sustainment.

TRL4 is expected by 4Q FY09.

Topic: CBT-09-IST-06**Epidemic Model**

This topic seeks proposals which will identify an epidemic modeling approach for predicting the effects of epidemics on humans engaged in military operations. The offeror will then develop a model with near real time computational capabilities that facilitates adaptation of observed and measured secondary infections rates and parameters such as personal contact, wind direction and velocity, animal contacts, vehicle traffic, etc. The model should incorporate intelligent data mining to help identify epidemics at onset.

TRL4 is expected by 4Q FY09.

Topic: CBT-09-IST-07**CB Effects on Shipborne Operations**

This topic seeks proposals which offer to develop the capability to model the effects of chemical and biological warfare attacks on US coastal and littoral operations, including amphibious operations, coastal patrol, mine warfare, special operations, maritime interdiction, and humanitarian assistance/NEO (non-combatant evacuation operations) operations close to shore. Execution of this work will include an assessment of relevant predictive models and simulations in use by the Navy and Marine Corps. The assessment will summarize the use and applicability of these models to testing, training, deliberate planning, and actual operations, proposing approaches or alternatives to incorporate accurate and useful representations of realistic CB events and their effects on operations. The effort shall result in the provision of a ready tool for Naval commanders to seamlessly assess the effects of CB events to their operations.

TRL3 is expected by 4Q FY09.

Topic: CBT-09-IST-08**CBRN Data on the Battlefield**

Substantially improved situational awareness, enhanced CBRN defense and mission performance will rely on increased availability of data *on the battlefield*. Now under development and facilitating this availability, the *CBRN Data Backbone* will provide a portal for all DoD personnel involved in defending the warfighter from CBRN attacks to securely and quickly access critical, validated data in support of that objective. Proposals submitted under this topic will consist of a study addressing one or both of the following two objectives related to the use of CBRN data *on the battlefield*:

- Determine CBRN data sets and types that may be most critical and/or useful to the warfighter. Such a study would include a detailed analysis of warfighter concept of operations (CONOPS) to assess potential data needs. The study should consider the Transformational Countermeasures Technology Initiative, Future Force Warrior, and other developing concepts for the future warfighter, but should also consider fielded capabilities and current CONOPS. The study should cover a representative spectrum of operational scenarios. Implications to consider include: varied CONOPS of different military services and missions; data classification and security; the modeling capabilities and requirements to assimilate the needed data. Additionally, recommendations are solicited for methodologies with which to obtain such data at the appropriate fidelity. Case studies are necessary to demonstrate how such data might be used on the battlefield, manually or automatically. In short, what data could be useful on the battlefield and why?

- Examine the potential of increased data access on the battlefield for enhancing current CONOPS as well as enabling the warfighter to operate in new threat/operational environments (e.g. Non-Traditional Agents, emerging threat agents, toxic industrial materials, asymmetric warfare). Investigate and demonstrate potential applicability of recent innovations in hardware (such as handheld computational capability and high performance computing), computer programming/software techniques, and wireless communication. Recommendations are solicited for modeling, simulation, or other tools useful for making available data more actionable.

Proposals submitted under this topic may address one or both of the above objectives.

TRL3 is expected by 4Q FY09.

Topic: CBT-09-IST-09

Training the Warfighter for the CBRN Threat

The ability of the forces to complete their missions unconstrained by CBRN threats depends on a comprehensive approach to CBRN Defense (CBRND) doctrine, education, training, and exercises. This topic seeks to advance the state of knowledge through a demonstrably efficacious approach to CBRN Warfighter training by developing a CBRN synthetic training environment specification. Such a future capability will be described, with an accompanying high-level specification. Analysis of required capabilities will address the four changing security environments of irregular threats, catastrophic threats, traditional/conventional threats, and disruptive threats. Leveraging breakthroughs in information and cognitive technology that could lead to highly advanced systems, the offeror will investigate new, emerging, or adaptive technologies of a revolutionary and evolutionary nature that will allow the Warfighter to select, create, or tailor a CBRN threat scenario so that the resulting training is effective, efficient, and applicable in the tactical, operational, or strategic environments, and can be employed within any selected military organization.

TRL3 is expected by 4Q FY09.

Topic: CBT-09-IST-010

Human Cognition and Cognitive Performance Enhancement Technologies

This topic seeks proposals for efforts to evaluate non-medical, human-system integration (HSI)-supporting neuroscience research efforts being conducted both within and outside the DoD community to determine its usefulness and applicability in the CBDP. HSI relationships, systems, and capabilities to be evaluated should include, but not be limited to, interactions and interfaces among humans and such entities as machines, communications systems, network entities, knowledge bases, and advanced decision systems. Successful exploitation of this field will improve support for and capabilities of the warfighter, with a key area being neuroergonomics, the study of the brain's perceptual processes, information paths, and activity centers under operational conditions, notably under conditions of stress. Additional areas to be considered for evaluation and study are research combinations of cognitive neuroscience, computational modeling, and empirical data collection, enabling the understanding of perceptual, cognitive, and neural processes that mediate behavior phenomena, as well as neurobiological computational models.

TRL3 is expected by 4Q FY09.

Topic: CBT-09-IST-011**CBRN Information Technology Initiative (CITI)**

The topic objective is the development of a Web 2.0 – based architecture that fosters a CBRND multi-disciplinary S&T conceptual development, evaluation, and analysis throughout the stakeholder community in support of Transformational Countermeasure Technologies Initiative (TCTI), providing the nexus for exploiting nanotechnology, biotechnology, information technology and cognitive science (NBIC) within a collaboration and experimentation domain. This architecture will promote the exploration of advanced concepts in digital systems and modeling and simulation problem domains relevant to current and postulated CBRND capability gaps and will ensure accessibility to data generated from Threat Agent Science *in silico* and transformation initiatives. The offeror will produce a prototype environment and supporting analysis providing key CITI requirements and necessary *initial* components, such as a service oriented architecture for accessing emerging JSTO-created capabilities, integration with the GIG NCES architecture, configuration management, collaboration, analysis for multi-disciplinary Science & Technology products as they move to and through transition, and multi-level access to and from classified systems for selected products and analyses.

TRL3 is expected by 2Q FY10.

Topic: CBT-09-IST-012**CBRN Tactical Technologies for operational effects and collaboration**

This topic seeks proposals for the development of models and novel technologies to be employed in the CBRN tactical environment. These efforts must be equally applicable to Joint tactical environments. Investigators must define and develop collaborative technologies that can survive in tactical environments, not office environments; i.e., technologies and systems that are robust and tolerant of hostile conditions (e.g., extreme heat, dust, mobility; humidity; useable with MOPP gear; in nuclear fallout/chemically hostile/hostile biologic conditions). Approaches that merely integrate and enhance COTS products are not desired. It is critical that tools be optimized for tactical warfighters, in scenarios with discontinuous/frail networks or satellite links, with long periods of no connectivity. Technologies that automate situation assessment information under conditions of attack (e.g., in riots, in encroaching forest fires, facing chemical fumes) will be of particular interest, as would be technologies that aggregate locally available bandwidth in all RF spectra for repurposing in a small local area network.

TRL6 is expected by 3Q FY10.

Topic: CBT-09-IST-013**Operational Evaluation of Collective Protection Systems**

Develop a modeling tool for use in the testing of collective protection products to evaluate system performance in a realistic operational environment under a variety of chemical and biological threats. Model inputs include all relevant characteristics of the operational environment and the system under test, and a wide spectrum of threat scenarios. The model will interpolate system performance from material- and component-level test data. The objective of this approach will be to evaluate items under test in environments which are impractical or prohibitive for live agent testing. Specific models of collective protection equipment planned for test must be developed as part of this effort. Some such models already exist and will require further development to provide the fidelity required to enable accurate operational assessment of

the entire collective protection system. The final tool is expected to answer the question: “How well does the system protect its occupants?” A critical asset of any proposal submitted in response to this topic will be the effort’s ability to positively impact testing and evaluation of Joint Expeditionary Collective Protection products currently in development. Deliverable expected from this effort is a software product compatible with other JSTO-CBD models for test and evaluation currently in development. It is expected that by 4Q FY10, a prototype model can be employed in a relevant environment.

Topic: CBT-09-IST-014

Operational Evaluation of Contamination Avoidance Systems

Develop a modeling tool for use in the testing of contamination avoidance products to evaluate system performance in a realistic operational environment under a variety of chemical and biological threats. Model inputs include all characteristics of the operational environment, a wide spectrum of threat scenarios, and all known properties of the system under test. Outputs must mirror current measures of operational assessment of detector systems. The objective of this approach will be to evaluate items under test in environments which are impractical or prohibitive for live agent testing. The deliverable expected from this effort is a software product compatible with other JSTO-CBD models for test and evaluation currently under development. The end product will link product models developed by the Joint Program Manager for Contamination Avoidance to all relevant environmental models to provide an assessment capability which answers specifically, through simulation, the question: “How will this product perform in a given environment?” A critical asset of any proposal to this topic will be the effort’s ability to positively impact testing and evaluation of Joint Services Lightweight Standoff Chemical Agent Detector (JSLSCAD) products currently in development. It is expected that by 4Q FY11, a prototype model can be employed in a relevant environment.

PROTECTION & HAZARD MITIGATION

The Protection & Hazard Mitigation capability area is seeking innovative technology proposals in response to the following topics:

Topic: CBT-09-PHM-01

“Smart” Hazard Mitigation System

Develop an effective molecular recognition hazard mitigation system for detection and hazard mitigation of threat agents such as, chemical warfare agents (CWAs) and biological warfare agents (BWAs) (initial focus should be applicability of the technology to mustard, V and G agents, and *b. anthracis* endospores). A “smart” threat agent detection and mitigation system should be designed so that a sensor generates a response that acts to decontaminate, detoxify, or sequester the agent and signals the response to an observer system. The smart system would ideally be imbedded in the decontaminant that reacts with the threat agent. *System capability should specifically target/neutralize contaminants at the molecular level to minimize material compatibility challenges by limiting the potential for the reactive component to react with the material (substrate) matrix. Research will also address issues related to minimize or overcome the rate-limiting affects related to diffusion coefficients.* An acceptable response to this topic could focus solely on the sensor/signal generation process of this concept to product technologies that will locate areas of chemical and/or biological contamination for application in the pre and post decontamination process. For instance, possible examples could be an indicator that

generates a distinguishable fluorescence, electrochemical, optical, or signals from contact with a chemical and/or biological agent. This would be considered the first increment toward this concept. Additional technical merit will be assigned to approaches with rapid response times, high selectivity and sensitivity, and provide more complete approaches that link sensing to activation of a response, signal this activation, and sense/signal the effectiveness of the result. Also, the approach should be eventually suitable for a military environment. Sensing methods such as colorimetric detection, surface acoustic wave (SAW) devices, enzymatic assays and interferometry will not be considered due to literature cited limitations such as slow responses, lack of specificity, low sensitivity and non-portability. Concepts are expected to be at TRL3 by 4Q FY10.

Topic: CBT-09-PHM-02

Energized Decontamination

To date, past decontamination approaches such as, microwaves, plasmas, ion beams, and laser acoustics have proven unsuccessful to meet the JPEO-CBD threat reduction requirements. JSTO-CBD is seeking new innovative energized approaches for decontamination of chemical warfare agents (CWAs) to be used in combination with coating materials (suitable for incorporation into coatings for vehicles, vessels, and aircraft). A systems approach should be conducted to understand interactions of energized decontaminate species with threat agent simulants or interactions in coatings at the molecular level. Suitable approaches could possibly include (but are not limited to) the development of coating composites and/or functionality that interacts at the liquid-solid interface and sub-surface in combination with lasers, plasmas, microwaves, etc.; development of sprays that produce electroactive or radical species with extended lifetimes (seconds to minutes); and ultrasonics, heat, electrical current, or other processes involved in the production of energized, short lived (seconds to minutes), gas-phase, reactive species. The final "Energized Decontaminate" system must be able to satisfy the following threat load requirements. Target level of decontamination is to reduce a starting liquid challenge of 10 g/m² within one minute of application to vapor off-gassing levels below 0.0001 mg/m³ for G agents, 0.00001 mg/mg³ for V agents and 0.003 mg/m³ for mustard (vapor off-gassing measured at room temperature). The technology must be suitable for processing a HMMWV exterior within 10 minutes or better, operate in a wide temperature range (objective range is -32 deg C to 49 deg C) and improve performance, expedite processing rates and minimize logistical demand. The treatment should not harm or damage typical military relevant materials (metals, coatings, and plastics). Additional consideration will be given to approaches suitable for decontamination of electronic equipment. The proposed approaches should not be equipment intensive requiring large, bulky, not-particularly-portable equipment. Concepts are expected to be TRL 4 by 4QFY10.

Topic: CBT-09-PHM-03

Residual Life Indicator

Provide novel technologies that can monitor filtration systems through adsorptive, reactive and/or particulate filtration and/or monitor protective garments via adsorptive and/or membrane based filtration. Novel approaches should be able to sense, analyze and report the remaining service life when uncontaminated by chemical warfare agents. Ideally, the technology should be easily imbedded in the filter/garment and easily interrogated in a military field environment. Technologies exploiting sensors for detection of toxic industrial chemicals (TICs), chemical

warfare agent (CWAs), or biological warfare agent (BWAs) are not requested in this announcement. In addition, technologies using external parallel filter elements are not requested in this announcement. Different technologies are anticipated for the sorbent-based garments and the membrane-based garments. Goal is to achieve TRL 4 by 4QFY10.

Topic: CBT-09-PHM-04

Novel Air Filtration Media

This topic seeks novel porous materials with enhanced adsorptive and reactive properties that will be effective in removal of toxic industrial chemicals (TICs), and chemical warfare agents (CWAs). Sorbents are needed that resist breaking down in very high humidity or wet environments, and possess conductive, rejuvenating, and/or self-detoxifying properties. Of particular emphasis are sorbents that will remove and retain low molecular weight vapors and gases (chemicals with vapor pressures greater than 5 kPa at 25°C, including but not limited to: oxides of carbon, nitrogen and sulfur, hydrides of nitrogen, arsine, phosphine and antimony). Special consideration will be given to novel synthetic materials with tailorable functionality and resistance to hydrolysis. Candidate technologies should have unique properties that facilitate the development of adsorbents with $>500 \text{ m}^2/\text{g}$, adsorption capacities $>0.1 \text{ ml}$ target threat agent per gram of adsorbent, reactive capacities (where applicable) of $>0.05 \text{ g}$ target threat agent per gram of adsorbent. Special consideration will be given to technologies that resist aging and/or technologies that allow for engineering in unique low-profile filter bed configurations. Approaches that modify current families of adsorbents (i.e. activated carbons) are not requested. TRL3 expected by 4Q FY09.

Topic: CBT-09-PHM-05

“Green Chemistry” Solvents and Surfactants for Dissolution of Sulfur Mustard [Bis(2-Chloroethyl) Sulfide]

Develop a “Green” surfactant-based solvent system for the rapid dissolution of blister agents such as sulfur mustard. The idea of “green” expresses the goal to minimize the environmental impact resulting from the use of harmful solvents to the environment. The system needs to be a broad-based approach and usable over a broad range of operational temperatures. The system needs to be compatible with rubber, elastomers, sorbative components and easily disposed of without the generation of hazardous waste that requires a special disposal procedure. Ideally, a thin film of a solvent/surfactant system should be able to dissolve a $1 \mu\text{L}$ drop of HD within 1 minute from a non-porous substrate material without agitation at ambient temperature. The ideal system should not produce harmful or toxic vapors during operational temperatures [basic cold (-25 deg F/-32 deg C) to hot (120 deg F/49 deg C)], and storage temperatures [basic cold (-27 deg F/-33 deg C) to hot (160 deg F/71 deg C)]. In addition, a system should not be harmful to military relevant materials, such as metals, polymers and coatings. Research proposals must target the development, optimization and demonstration of a solvent and/or surfactant system. Special consideration will be given to theory/experimental approaches looking at a wide-spectrum of combinations, such as a library or a high throughput testing via a screening approach to research methodology. Special consideration will be given to solvent and/or surfactant systems that are easily produced from commodity chemical feedstock. Special consideration will be given to approaches that lead to minimizing the amount of solvent/surfactant needed to support a decontamination process. Applied research projects should meet a TRL4 by 4Q FY10.

Topic: CBT-09-PHM-06

Contaminated Human Remains. The JSTO is seeking comprehensive studies and applied research proposals to develop a greater knowledge and understanding of the secondary and residual hazards that impact rapid and safe decontamination and handling of CBRN contaminated human remains and personal effects; permit the movement of the deceased back to Home Station, and interment. Little empirical data has been gathered to understand the hazard from secondary transfer via aerosol, vapor, liquid, or direct contact. This lack of data hampers the development of a comprehensive remains decontamination system, the design of post decontamination shipment containers, and the formulation of policy for handling and final interment. This study and research should include a combination of literature searches, analysis, and experimental studies. This research will focus on defining the residual hazard(s) associated with potentially contaminated human remains – specifically investigating the outcome of classic chemical agents interaction with physiologically active materials found in human remains. The research proposal must include live-agent exposure and test surrogates of sufficient body mass. This research and study must be completed by 4Q FY10.

Topic: CBDIF-08-PHM-07**Revolutionary Concepts for Ingress/Egress to Toxic Free Areas (TFAs) for Buildings and Mobile Shelters**

JSTO-CBD is seeking development and demonstration of revolutionary approaches to contamination control areas (CCAs)/airlocks that will allow the unimpeded throughput of personnel, equipment and supplies while maintaining the TFA at a pressure of 0.5 inches of water gauge and provide a four log (threshold) to six log reduction (objective) of biological threats through the system. The assumption is that personnel have conducted some level of decontamination, but still have residual amounts on body/hair/clothing, and residual airborne aerosols in the air and/or wake of the entering person. The processing rate of personnel and equipment is less than 4 minutes (threshold), with an objective of 2 minutes for groups of two. Equipment may be processed separately, but has the same throughput objectives. A decontamination approach is considered part of this topic, but choice of agent must conform to safe exposure levels at various levels of protection through the process and off-gassing residuals in the TFA may not exceed long-term TWA exposure limits for unprotected personnel. Deliverables include a design and demonstration of the CCA/airlock along with technical procedures for processing. The demonstration will be accomplished using suitable biological agent surrogates. The minimum exit technical readiness at the conclusion of the project is TRL5 NLT 4Q FY10.

THREAT AGENT SCIENCE

The Threat Agent Science capability area is seeking innovative technology proposals in response to the following topics:

Topic: CBT-09-TAS-01**Molecular Interactions of Chemical or Biological Warfare Agents with Environmental Materials, Biological Membranes and Fluids**

An understanding of the molecular interactions at each step in the environmental life-cycle of a chemical and biological warfare agent is necessary to completely describe its hazard.

Compartmentalization of the agent in the environment can be explained mechanistically with pathways that include adhesion, absorption, diffusion and transport on and in materials. When a sufficient understanding of those mechanisms is reached, a prediction can be made as to how a molecule will interact and transport both through the environment, and also through biological membranes and fluids based on its molecular composition.

The objective of this applied research area is to advance the understanding of how chemical and biological agents interact with environmental materials and matrices in addition to agent interactions with biological membranes and fluids. Successful proposals will couple both computational and experimental research to provide mechanistic understanding of the interactions. Work could include both macroscopic and microscopic scales. The pathway and persistence of chemical and biological warfare agents in the environment dictates the time and concentration of agent available to produce a toxicity level that may reduce the operational tempo of warfighters, a particular concern within chemical and biological defense.

Research concentration areas are: (1) coupled experimental and computational studies on the molecular interactions of agents with environmental materials such as soil and vegetation, urban materials like rubber, plastic, metal, fabric, concrete and asphalt, and airborne particulates like pollen and dust (excluding biological membranes and fluids); (2) coupled experimental and computational studies on the molecular transport of agents through environmental components (excluding biological membranes and fluids); and (3) coupled experimental and computational studies on the molecular interactions of agents with biological membranes and fluids such as cell membranes, the blood-brain barrier, blood, lymph, etc. and (4) coupled experimental and computational studies on the molecular transport of agents through biological membranes and fluids.

Successful execution of this research will result in a better understanding of chemical and biological warfare agent interaction with materials in the environment and the human body. This understanding will provide the Chemical and Biological Defense Program with the potential to develop improved methods and tools to predict routes of exposure as well as bioavailability which can affect the mechanism of toxicity of chemical and biological warfare agents depending on the mode of contact. This research is supporting science and has the potential to impact medical diagnostics, detection, decontamination, protection, and Concept of Operations (CONOPS) and tactics, techniques and procedures (TTPs) related to hazard levels.

Topic: CBT-09-TAS-02

Experimental and theoretical studies of particulate transport mechanisms onto and off of environmental surfaces

The objective of this effort is to advance the understanding of transport mechanisms of particulate matter in the environment via coupled experimental and analytical investigations. Successful proposals will use key physical interactions to address issues related to secondary transport mechanisms such as reaerosolization, wind diffusion, release in water and effective sampling. Experimental observations should be directly related to specific physical characteristics/interactions such as adsorption, cohesive forces, hygroscopicity, electrostatic charge, boundary layers, etc. The resulting data should be incorporated into computational models to predict potential transport and hazard. Work that explores transport mechanisms on

complex, heterogeneous, and/or effective irregular surfaces are of particular interest. These surfaces include but are not limited to soil, fibers, porous surfaces, building materials and vegetation. Studies should address a variety of environmental factors including rain, wind and indoor turbulence. Successful research efforts will provide sound analytical development coupled with experimental and computational approaches.

MEDICAL PRE-TREATMENTS

The Medical Pre-Treatments capability area is seeking innovative technology proposals in response to the following topic:

Topic: CBDIF-08-PRET-01

Development of a broad-spectrum and/or multivalent vaccine platform.

The research requested should yield a single vaccine that simultaneously provides protection against challenge (preferably aerosol) with more than one select biothreat agent of specific interest to the Chemical and Biological Defense Program. The design of the vaccine formulation could target proteins and/or pathways utilized by multiple biothreat agents for survival and pathogenesis (i.e., broad-spectrum). Alternatively, the vaccine formulation could encode multiple antigens from more than one biothreat agent (i.e., multivalent). Ideally, the final vaccine should elicit a potent innate and adaptive immune response to the pathogens, and not cause immune interference.

MEDICAL DIAGNOSTICS

The Medical Diagnostics capability area is seeking innovative technology proposals in response to the following topic:

Topic: CBDIF-08-DIAG-01

Methodology for completion of genomic sequencing coverage of bacterial and viral biothreat agents

Development of rapid and economical methods and/or tools to efficiently complete/close coverage of draft genomes generated by high throughput (HT) sequencing methods. The output of these methods should be validated to demonstrate that they produce adequate genomic structure and organization to allow for use in systems biology, metagenomics or other comparative genomics approaches. These methods/tools will support DTRA investments in HT sequencing technologies and be able to rapidly process genomic sequence from organism panels of multiple strains/clades and bring them into full coverage databases where they can be used in the discovery of novel therapeutic, vaccine and diagnostic applications.

ATTACHMENT 9

EVALUATION CRITERIA AND SELECTION PROCESS

1. The Quad Chart/White Paper (Phase I) and invited full proposal (Phase II) selection process will be conducted based upon a technical subject matter expert review as described in Federal Acquisition Regulation Subparts 6.102(d)(2) and 35.016 and/or DoD Directive 3210.6-R-DoDGARS, Section 22.315. All documents necessary for the review and evaluation of the Phase I and Phase II submissions must be provided as described in Section 6 of this BAA.

1.2. Phase I - Quad Chart/White Paper Evaluation.

1.2.1 The evaluation will be based on two criteria. The criteria will be scored as Excellent (E), Good (G), Fair (F), or Poor (P). Quad Charts/White Papers scored as “Poor” in any single category will be deemed “Not Selectable” and will not be considered further.

1.2.2. Phase I evaluation criteria to be used to evaluate and select Quad Charts/White Papers are listed below in order of decreasing importance.

1.2.2.1. Scientific and Technical Merit. The objective of this criterion is to assess the extent to which the offeror has an innovative, unique, high payoff, and comprehensive technical approach based on sound scientific principles. Offerors must demonstrate that their approach is innovative, unique, and responsive to the topic as presented in this solicitation; that the technical approach is sound; that they have an understanding of critical technical issues and risk and that they have a plan to reasonably mitigate those risks where possible. Significant improvements in chemical and biological technology capability above the ‘state-of-the-art’ are sought.

1.2.2.2. Value to the Joint Chemical and Biological Defense Program Goals. The objective of this criterion is to assess the extent to which the offeror has a credible and feasible scientific solution that best meets or exceeds the topic requirements and provides a rapid path of application of the technology to the Department of Defense. Offerors must demonstrate a clear knowledge of desired military capabilities and indicate the manner in which the technology will transition. Proposals must demonstrate how the proposed research supports the program goals and responds to the specific topic areas. Offerors must demonstrate that the new technology can be implemented or utilized by end-users as a means to improve their operational capabilities.

1.3. Phase II - Full Proposal Evaluation.

1.3.1 The evaluation will be based on four criteria. The first three criteria listed below will be scored as Excellent (E), Good (G), Fair (F) or Poor (P). Proposals scored as “Poor” in any single category will be deemed “Not Selectable” and will not be considered further for funding. The fourth criterion (Cost Realism) will be scored as either Realistic or Non-realistic.

1.3.2. Phase II evaluation criteria to be used to evaluate and select full proposals are listed below in decreasing order of importance.

1.3.2.1. Scientific and Technical Merit: The objective of this criterion is to assess the extent to which the offeror has an innovative, unique, high payoff, and comprehensive technical approach based on sound scientific principles. Offerors must demonstrate that their approach is innovative, unique and responsive to the topic as presented in this solicitation; that the technical approach is sound; that they have an understanding of critical technical issues and risks and that they have a plan for mitigation of those risks. Significant improvements in chemical and biological technology capability above the 'state-of-the-art' are sought.

1.3.2.2. Value to the Joint Chemical and Biological Defense Program Goals: The objective of this criterion is to assess the extent to which the offeror has a credible and feasible scientific solution that best meets or exceeds the topic requirements and provides a rapid path of application of the technology to the Department of Defense. Offerors must demonstrate a clear knowledge of desired military capabilities and indicate the manner in which the technology will transition. Proposals must demonstrate how the proposed research supports the program goals and responds to the specific topic areas. Offerors must demonstrate that the new technology can be implemented or utilized by end-users as a means to improve their operational capabilities.

1.3.2.3. Capability of the Personnel and Facilities to Perform the Proposed Effort. The objective of this criterion is to assess the extent to which the offeror's team has the requisite expertise, skills and resources necessary to perform the proposed program. This includes an assessment of the team's management construct, key personnel, facilities and past technical experience in conducting similar efforts of the proposed scope. Offerors must demonstrate that their team has the necessary background and experience to perform this project. Facilities should be detailed with discussion of any unique capabilities pertinent to the research. Subcontractors may include Government facilities or Agencies; however the unique expertise or specialized facilities provided through their inclusion must be clearly presented.

1.3.2.4. Cost Realism. This objective of this criterion is to establish that the proposed costs are reasonable and realistic for the technical approach offered and to assess the Offeror's practical understanding of the effort. Proposals also will be evaluated for cost justification in relation to the scope of the proposed effort.

1.4. Other factors that may be considered are duplication with other research, program balance across research topics, and budget limitations. The Government may also evaluate the impact of any asserted data/software restrictions or patents during the selection and/or negotiation process, and may request additional information from the offeror, as may be necessary, to evaluate the offeror's assertions.

1.5. Past Performance. Prior to award, the Government reserves the right to perform a review of past performance. Sources for past performance review may include Past Performance Information Retrieval System (PPIRS), and government sources such as the Defense Advanced Research and Projects Agency (DARPA) and the Army Research Office (ARO). Government program managers and contracting officers who are familiar with the offeror's relevant past performance may also be contacted.

1.6. The Government reserves the right to select all, some, or none of the proposals, or any part of any proposal, received in response to this solicitation and to make awards without discussions with offerors; however, the Government reserves the right to conduct discussions if the Selection Authority later determines them necessary

ATTACHMENT 10

NOTICE REGARDING USE OF GRANTS.GOV APPLY

THIS GUIDANCE ONLY PERTAINS TO OFFERORS WHO ANTICIPATE THE ISSUANCE OF A GRANT FOR THEIR PROJECT

IMPORTANT: Offerors submitting an assistance instrument (e.g., grants) as their recommended approach **must** submit their proposal through the DTRA proposal submission website; See BAA Section 6.3.1.

Organizations must register in Grants.gov to be able to submit proposals through the Grants.gov portal. Individual Principal Investigators (PI)/Project Directors (PD) do not register; however the Authorized Organizational Representative (AOR) or Business Point of Contact (BPOC) is required to register and, in some cases, the PI/PD may be an AOR.

If you have not already done so, you, as an organization, are encouraged to register in Grants.gov as a prerequisite to submitting a proposal through Grants.gov APPLY. Your Grants.gov registration is valid for all Federal agencies and is in effect regardless of whether you actually submit a proposal. If you have not previously registered, please note that the registration process can take several weeks and you should register as soon as possible.

All Broad Agency Announcements for basic research that may result in grants or cooperative agreements issued by this office will at a minimum invite electronic proposal submission through that government-wide portal, regardless of the resulting award instrument.

The following actions are required as part of the registration process. All of the required actions are listed and described although it is likely that, if you do business with the federal government on a continuing basis, you already have completed some of the actions, e.g., obtaining a DUNS number or registration in CCR. Detailed information, automated tools, and checklists are available at <http://grants.gov/GetStartedRegister?type=organization>

DUNS Number

Your organization will need a Data Universal Number System (DUNS) Number. A DUNS number is a unique nine-character identification number provided by the commercial company Dun & Bradstreet (D&B). Before requesting a DUNS number, you should investigate if your organization already has a DUNS number. You should ask your organization's chief financial officer, business office, or authorizing official to provide your organization's DUNS number. You also can determine if your organization has a DUNS number by calling D&B at: 1-866-705-5711.

If your organization does not have a DUNS number, an authorized official of the organization should request one. If the organization is located in the United States, the request can be made by calling 1-866-705-5711. It also is possible to request a DUNS number online via web registration. If your organization is located outside of the United States, you can request and register for a DUNS number online via web registration.

Central Contractor Registry

Your organization will need to register with Central Contractor Registry (CCR) before you can submit a grant application through Grants.gov. CCR validates applicant information and electronically shares the secure and encrypted data with Federal agencies' finance offices to facilitate paperless payments through Electronic Funds Transfer (EFT). The CCR will house your organizational information, allowing Grants.gov to use that information to verify your identity.

When your organization registers with the CCR, you will be required to complete the Electronic Business Point of Contact (E-Business POC) (see below) and Marketing Partner ID (MPIN) fields. These are mandatory fields that are required when submitting grant applications through Grants.gov. The E-Business POC will be the sole authority of the organization with the capability to designate or revoke an individual's ability to submit proposals on behalf of the organization through Grants.gov. If you are uncertain of the status of your organization's registration or who your E-Business POC is, you can search the CCR database (<http://www.bpn.gov/ccrinq/scripts/search.asp>).

See Section 15 of this BAA for additional information pertaining to registering with the Central Contractor Registry.

Authorized Organizational Representative

Before submitting a proposal, representatives of your organization need to register to submit on behalf of your organization. Your organization's E-Business POC identified during CCR Registration, must authorize someone to become an Authorized Organization Representative (AOR). This safeguards your organization from individuals who may attempt to submit proposals without permission. **Note: In some organizations, a person may serve as both an E-Business POC and an AOR.**

An AOR first registers with the Grants.gov credential provider (at <https://apply.grants.gov/OrcRegister>) and then with Grants.gov. Once an AOR has completed the Grants.gov process, Grants.gov will notify the E-Business POC for assignment of user privileges. When an E-Business POC approves an AOR, Grants.gov will send the AOR a confirmation e-mail.